



Verification Report

Version 1.3

21 April 2026

Document Prepared by

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Forest Carbon Partnership Facility (FCPF)

Carbon Fund

Verification Report (VER)

ER Program Name and Country	ER Program in Atiala Atsinanana (ERP-AA), Republic of Madagascar
Reporting Period Covered In this Report	01-01-2021 to 31-12-2022
Number of FCPF ERs	7,628,874
Number of ERs allocated to the Uncertainty Buffer	921,360
Number of ERs allocated to the Pooled Reversal Buffer	2,966,783
Number of FCPF ERs from enhanced removals through afforestation/ reforestation	0
Name of the VVB	Scientific Certification Systems Global Services (SCS)
Contact information of the VVB	2000 Powell Street, Suite 600, Emeryville, CA 94608, USA http://www.scsglobalservices.com Email: cpollet-young@scsglobalservices.com Telephone: +1 (510) 452-8000
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Date of the Verification Report	21-April-2026
Report Approved by	Christie Pollet-Young

1. VERIFICATION STATEMENT

The review and cross-check of explanations and justifications included in the Monitoring Report dated 12-12-2025 (Version 6.3) and supporting documents have provided Scientific Certification Systems Global Services (herein referred to as SCS) with sufficient evidence to determine with a reasonable level of assurance the compliance of the reported information with the FCPF Methodological Framework, the Validation and Verification Guidelines and other applicable normative documents.

The scope covered by the verification includes the Republic of Madagascar Emission Reduction Program's crediting period 22-03-2020 to 31-12-2024, the reporting period 01-01-2021 to 31-12-2022, the accounting area 6,913,969 hectares, the REDD Country Participant's Forest Monitoring System, the national REDD+ Programs and Projects Data Management System and the following GHG sources, sinks, and carbon pools:

The following GHG sources, sinks and/or reservoirs:

- Emissions from deforestation
- Emissions from forest degradation
- Removals from carbon stock enhancements

The following Carbon pools:

- Above Ground Biomass (AGB)
- Below Ground Biomass (BGB)
- Dead Wood
- Litter
- Soil Organic Carbon (SOC)

The following types of GHGs:

- CO₂
- CO₄
- N₂O

A total of 38 MCARs, 1 mCARs and 0 Observation findings were raised as part of the Verification process. All MCARs have been successfully addressed by the ER program. One mCAR remains open (mCAR 39) and is required to be addressed at the next verification. These findings are described in Appendix 1 of this report.

SCS is able to verify with a reasonable level of assurance that the Emission Reductions generated by the ER Program in Atiala Atsinanana (ERP-AA), Republic of Madagascar, were quantified in accordance with the FCPF verification criteria, amount to 11,517,017 tonnes of CO₂ equivalent. SCS verified that the uncertainty buffer ERs amount to 921,360 tonnes of CO₂ equivalent, that the quantity of ERs allocated to the pooled reversal buffer amount to 2,966,783 tCO₂e. The amount of FCPF Units to be issued is 7,628,874 tCO₂e. The total ERs to be cancelled from the Uncertainty Buffer due to misstatements identified during this verification period, related to the first reporting period (22 March 2020 to 31 December 2020), amount to 141,026 tCO₂e (see additional information in Section 4.2, "Methodological Deviations"). There are no uncertainties associated with the verification conclusion.

Statement Issuing Date: April 21st, 2026

Intended User: World Bank Group, FCPF Carbon Fund Participants




2. AGREEMENT

2.1 Level of Assurance

The audit assessment was conducted to provide a reasonable level of assurance concerning material misstatements, errors, or omissions in conformance with the FCPF program verification criteria and scope stated in the FCPF Validation and Verification Guidelines. The provisions undertaken to ensure such a reasonable level of assurance included:

- Perform a risk-based assessment of the program area and program activities to ensure that the program, and the measuring, monitoring and quantification of GHG emissions and removals for the verification period conforms to the FCPF verification criteria.
- Assess and select samples of data and information from the program area and program activities in order to confirm they meet a reasonable level of assurance and the materiality requirements of the program, as required by the FCPF.
- Independent recalculation of the quantification of GHG emissions and removals and the recalculation of the ER program estimates for the reporting period (01 January 2021 to 31 December 2022).
- Assessment of the data collection, the selection of categories, the measuring, monitoring and reporting methods, standard operating procedures, the Monitoring Report, the parameters, equations, calculations and supporting documentation are correct and in conformance with the FCPF program requirements.

Based on the previous provisions and considering the findings raised during the audit, a positive evaluation statement reasonably ensures that the FCPF Program GHG assertion is materially correct and is a fair representation of the GHG data and information provided in the ER Monitoring Report and supporting documents.

2.2 Objectives

The assessment team conducted a verification of the ER Program in Atiala Atsinanana (ERP-AA) based on the following objectives:

- Review of the ER Monitoring Report and supporting information to confirm the correctness and completeness of the presented information
- Identify if the methodological steps and data are publicly available in accordance with applicable criteria
- Assess the extent to which the ERs have been reported with a transparent and coherent step-by-step process that enables reconstruction, have met the requirements of applicable criteria and are free of material errors and misstatements.
- Identify source(s) of uncertainty due to both random and systematic errors that can impact the estimate of the Total ERs, and determine whether the ER Program has conducted the uncertainty analysis in compliance applicable criteria
- Assess the Forest Monitoring System of the ER Program and ensure that they include control measures in place to address areas of risk of future non-compliance.

- Identify components of the Forest Monitoring System that require attention and/or adjustment in future monitoring and reporting or identify areas of risk of future non-compliance.
- Verify that the data, methods and approach used to estimate GHG emissions and removals are consistent with the Reference Level and with the Monitoring Plan.
- Ensure that the Monitoring Report is accurate and complete with regard to the strategies undertaken to mitigate significant risks and/or minimize potential displacements and the changes in major drivers in the ER Accounting Area.
- Confirm that the Monitoring Report is complete and accurate on the mitigation of significant risks of reversals and contains strategies to address the sustainability of ERs.
- Verify that the ERs allocated to the Uncertainty and Pooled Reversal Buffer are estimated in compliance with the MF and other applicable criteria.
- Confirm the extent to which the ERs generated under the ER Program have not been counted or compensated for more than once.
- Assess the national or centralized REDD+ Program Data and Management System and verify that it is implemented and operated in compliance with the MF and other applicable criteria.

2.3 Criteria

The criteria applicable for the verification included:

- FCPF Process Guidelines, Version 6.4, September 2025
- FCPF Validation and Verification Guidelines, Version 2.8, September 2025
- FCPF Methodological Framework, Version 3, April 2020
- FCPF Glossary of Terms, Version 2.5, December 2025
- FCPF Buffer Guidelines, Version 4.4, March, 2026
- FCPF Guideline on the application of the Methodological Framework (MF) Number 1, On the use of interpolation of data in relation to the Reference Period of an ER program, Version 1.0
- FCPF Guidelines on the application of the MF Number 3, On the definition of reporting periods of Emission Reduction Programs, Version 1.0
- FCPF Guidelines on the application of the MF Number 4, On Uncertainty Analysis of Emission Reductions, Version 1.0
- ER Monitoring Report Template, Version 3.2
- FCPF Verification Report Template, Version 1.5
- ISO 14064-3:2006
- ISO 14065:2013
- ISO 14066: 2011
- IAF MD 6:2014
- Any formal clarification provided by the FMT

The following guidance documents (or collections of documents) were considered to contain good practice in undertaking the assessment, though said documents were not formally considered to be part of the assessment criteria.

- 2006 IPCC Guidelines for GHG Inventories
- 2013 IPCC Wetlands Supplement

- 2019 refinement to the 2006 IPCC Guidelines
- GFOI 2020 Methods and Guidance Document
- FCPF Guidance Notes

2.4 Scope

The scope of the verification of the ER Program in Atiala Atsinanana (ERP-AA) of the Republic of Madagascar, which was the subject of the audit engagement described above, included the following:

The ERP-AA Accounting Area included an ecological zone covering 6,913,969 hectares of five forest types:

- Primary forest
- Modified Natural forest – Disturbed forest
- Modified Natural forest – Agroforestry
- Modified Natural forest – Secondary forest
- Plantation – Plantation for wood

The following time period:

- Crediting period: 01-January-2020 to 31-December-2024
- Reporting period: 01-January-2021 to 31-December-2022

The GHG sources, sinks and reservoirs associated with any of the REDD+ Activities accounted for as required by the Methodological Framework:

- Emissions from deforestation
- Emissions from forest degradation
- Removals from carbon stock enhancements (not reported this reporting period)

The following Carbon pools:

- Above Ground Biomass (AGB)
- Below Ground Biomass (BGB)
- Dead Wood
- Litter
- Soil Organic Carbon (SOC)

The following types of GHGs:

- CO₂
- CO₄
- N₂O

The ER-Program's Forest Monitoring System is comprised as follows:

- Madagascar's National Forest Monitoring System (NFMS) supports emissions reduction programs and REDD+ initiatives by integrating monitoring and MRV (Measurement, Reporting, and Verification) functions with activity data. The activity data is primarily derived through remote sensing analyses conducted by the Madagascar Forest Observation Laboratory (LOFM) through the Collect Earth tool.
- The LOFM uses satellite imagery, cartographic databases, and spatial analyses to monitor deforestation and degradation, complemented by field surveys, interviews, and community-based monitoring in areas with limited government presence. The

program has developed Standard Operating Procedures (SOPs) that guide the stratification mapping, sampling, data collection, interpretation, and analysis to ensure accuracy and transparency.

- The NFMS collaborates with the Methodology Division, which establishes forest inventory methods, emission factors, and reference levels. Additional systems include the Satellite Land Monitoring System for Earth Observation data and the REDD+ Initiatives and Programs Information System (SIIP), which centralizes and validates REDD+ data and monitors performance. The data undergoes rigorous QA/QC checks that then is cross-referenced with global sources like FAO and UNFCCC reports.

The national REDD+ Programs and Projects Data Management System as described in the Monitoring Report.

2.5 Materiality

The verification process based on the desk review found that there are not quantitative and/or qualitative material discrepancies affecting the GHG assertion or leading to overestimations of the reported GHG emissions and removals. The process for estimating the threshold of materiality is described below:

The term “discrepancy”, as implicitly defined in Section 2.30 of ISO 14064-3:2006, encompasses the terms “error”, “omission” and “misrepresentation” (i.e., these three types of distortion are different categories of discrepancies). Any discrepancies which also presented clear divergence from stated requirements of the assessment criteria were treated as non-conformities in the assessment process. Any other discrepancies identified during the course of the assessment were subject to the following materiality assessment.

Qualitative and quantitative materiality refers to “errors”, “omission” and “misrepresentation” that either individually or in the aggregate form affect the GHG assertion.

Where the methodology used in production of the ER Monitoring Report (ER-MR) does not follow the FCPF Methodological Framework and applicable guidelines assessed by the verification team, a discrepancy between the output produced by the assessment team and the information reported in the ER-MR resulted, and in that case such discrepancies were evaluated for materiality according to the following criteria:

- The threshold for quantitative materiality concerning the aggregate of misstatements, errors or omissions relative to the total reported GHG emissions and removals or emission reductions shall be 1%.
- Qualitative issues related to management system and controls, poorly managed documentation, and non-compliance with the applicable requirements of the Methodological Framework and other applicable criteria.
- Any errors in the reporting of factual information in the ER Monitoring Report will be considered material if the incorrectly reported information is directly or indirectly required to be reported by the FCPF Methodological Framework.

- A 1% materiality threshold applies to any over-estimation of Reference Level and ER.¹ Under-estimation of the Reference Level or Emission Reductions will not be considered a material discrepancy.

Any discrepancies identified as material through application of the above criteria were treated as non-conformities in the assessment process. Any discrepancies not identified as material through application of the above criteria were inherently considered immaterial. In the event that discrepancies were identified that do not required immediate correction but that required corrective action or mitigation later in time were stated as Observation.

¹ The materiality analysis was carried out by first calculating the difference between the reported ERs and the assessment team's calculation of the same quantity, and then dividing by the reported ERs. If the resulting quantity was greater than 1.00%, the discrepancy was considered material. Otherwise, the discrepancy was not considered material. Under-estimation of the ERs were not considered a material discrepancy.

3. METHODOLOGY AND PLANNING

3.1 Verification team

The verification team was conformed as follows:

Name	Role	Activities				
		Desk review	Site visit	Reporting	Supervision	Technical review
Vanessa Mascorro	<ul style="list-style-type: none"> Lead auditor; Verification Forester 	X	X	X	X	
Dr. Doug Baldwin	<ul style="list-style-type: none"> Auditor; Verification Scientist 	X	X			
Dr. Raleigh Ricart	<ul style="list-style-type: none"> Auditor; Verification Scientist 	X				
Alexa Dugan	<ul style="list-style-type: none"> Technical reviewer; Technical Manager, GHG Verification Program 					X
Tanjona Rasolomahefa	<ul style="list-style-type: none"> In-country Expert 	X	X			

3.2 Verification schedule

An indicative schedule developed for the assessment of the milestones and activities planned, is included below. The table includes details of the start and end date of each of the milestones undertaken for the assessment.

Milestone	Start Date	End Date
Kick Off Call	Wednesday December 18, 2024	Wednesday December 18, 2024
SCS Risk Assessment & Sampling Plan	Monday January 6, 2025	Friday January 17, 2025
SCS Shares Audit Plan to FMT	Friday January 31, 2025	Friday January 31, 2025
SCS Documentation review	Monday February 3, 2025	Friday February 28, 2025
Quantification call	Thursday February 20, 2025	Thursday February 20, 2025



SCS Issuance of Desk Review Findings	Friday February 28, 2025	Wednesday March 12, 2025
Site Visit Planning	Monday March 3, 2025	Friday March 28, 2025
Client Response to Desk Review Findings	Thursday March 13, 2025	Wednesday April 16, 2025
Site Visit	Tuesday April 8, 2025	Friday April 11, 2025
SCS Review of Desk Review Finding Responses	Thursday April 17, 2025	Friday May 2, 2025
SCS Preparation of Site Visit Findings	Monday May 5, 2025	Tuesday May 13, 2025
SCS Issuance DeskReview & SiteVisit Findings	Wednesday May 14, 2025	Wednesday May 14, 2025
Client Response to all Findings	Thursday May 15, 2025	Thursday June 5, 2025
SCS Review of Findings	Tuesday June 10, 2025	Monday June 30, 2025
Client Response to Findings R2	Tuesday July 1, 2025	Friday August 15, 2025
SCS Review of Findings R2 & Submits Findings R3	Tuesday September 2, 2025	Thursday September 18, 2025
Client Response to Findings R3	Friday September 19, 2025	Monday September 29, 2025
SCS Review of Findings R3 & Submits Findings R4 Re Area Changes	Wednesday October 1, 2025	Tuesday October 7, 2025
Client Response to Findings R4	Wednesday October 8, 2025	Friday October 10, 2025
SCS Review of Findings R4 & Submits Findings R5 Re Area Changes	Monday October 13, 2025	Friday October 17, 2025
Client Response to last Findings R5	Friday October 17, 2025	Thursday October 23, 2025
SCS Review of last Findings R5	Friday October 24, 2025	Friday November 7, 2025
SCS Closure of all findings	Friday November 7, 2025	Wednesday November 12, 2025
SCS Report Writing	Wednesday November 12, 2025	Monday December 1, 2025
SCS Technical Review	Monday December 1, 2025	Monday December 15, 2025
SCS Issuance of Draft Report	Monday December 15, 2025	Monday December 15, 2025
Client Response to Draft Report	Monday December 15, 2025	Thursday December 18, 2025
SCS Issuance of Final Report	Thursday December 18, 2025	Friday December 19, 2025

3.3 Methodology description

The assessment was performed through a combination of document review and interviews with relevant personnel, as discussed in Sections 3.4 and 3.5 of this report. At all times, the MR and the ER Program described therein were assessed for conformance to the criteria described in Section 2.3 of this report. As a result of this verification process, findings were issued to identify any actual or potential areas of risk or concern.

A risk assessment was conducted, and a sampling plan produced, in accordance with Sections 4.4.1 and 4.4.3 of ISO 14064-3:2006, respectively, following a proprietary approach developed by SCS. The process involved identification of key areas of “residual risk” (areas where there exists risk of a material discrepancy that is not prevented or detected by the QA/QC processes of the ER Program). Sampling and data testing activities were planned to address any risk where the likelihood of an area of nonconformance or material discrepancy going undetected by the assessment team was judged to be unacceptably high. A verification plan was created that took the sampling plan into account.

The assessment team took the following steps to assess whether the best available data sets, methods, models and assumptions have been used with transparency, consistency, completeness and accuracy, and are in conformity with the FCPF’s Methodological Framework requirements:

- Held meetings with the program’s technical team to gain a clear understanding of the process in determining the best available data sets, methods and models employed by the program.
- Independently reviewed available literature regarding the availability of datasets pertaining to forest inventory and land cover change in the program area to confirm that the best available data sets have been utilized by the program.
- Independently reviewed the Program’s Forest Reference Level quantification to assess whether the data, methods, and assumptions used to quantify the GHG emissions and removals are in conformity and represent the best available data in the country.

If no country specific or region-specific information was available, the assessment team confirmed that the most relevant and accurate default values from the IPCC Guidelines were applied in conformance with Criterion 5 of the FCPF Methodological Framework requirements.

3.4 Review of documentation

The Emissions Reductions Monitoring Report (er_monitoring_report_erpa_madagascar_2rp_final_version_12182025_V6.3.docx, “ER-MR”), was carefully reviewed for conformance to the FCPF assessment criteria. The following additional documents, provided by ER Program personnel in support of the MR, were also reviewed by the assessment team for consistency, accuracy, and appropriateness with regard to the FCPF Methodological Framework and associated requirements:

Document	File Name (If Applicable)	Ref.
ER-MR	er_monitoring_report_erpa_madagascar_2rp_final_version_0227_2026_V6.4.docx er_monitoring_report_erpa_madagascar_2rp_final_version_0926_2025_clean_FMT_track_changes.docx	1

ER-PD	Final ER PD MDG6_20180606_Posted_0.pdf	2
Previous ER-MR	madagascar_1st_er_monitoring_report_erpa_complete_final.pdf	3
Activity Data - Collect Earth	Johary_CE_2021_07_15.csv Sitraka_CE_2021_07_15.csv Tahiry_CE_2021_07_15.csv Topaniaina_CE_2021_07_15.csv Johary_CE.csv Sitraka_CE.csv Topaniaina_CE.csv Johary_CE_110624_111236.zip Johary_CE_270624_111932.csv Tahiry_CE_100624_152558.csv Tahiry_CE_100624_152636.zip Topaniaina_CE_100624_122409.csv Sitraka_CE_170624_120515.csv	4
Emission Reductions Calculation Workbook	MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10_082625.xlsx MADA_Biomasse_aerienne_et_Morte_20220410_v01.xlsx fcpf_er-mr_template_tool_sections_4_7_8_annex4_Madagascar.xlsm FCPF_template sections 4_7_8_FCPFMR_Madagascar.xlsx fcpf_er-mr_template_tool_sections_4_7_8_annex4_Madagascar_V2.0.xlsm	5
Uncertainty Analysis Calculation workbooks	MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1.xlsx	6
SOPs	10.SOP_0_STRATIFICATION.pdf 11.SOP_2_CONCEPTION_REPONSE.pdf 12.SOP_3_COLLECTE_DONNEES.pdf SOP_1_MADA_DA_Instruction_PréparationConceptionEchantillonnage_reviewed-v2-finale.pdf SOP_2_mada_DA_Instruction_ConceptionRéponse-v2.pdf SOP_3_mada_DA_Instruction_CollecteDonnées.pdf SOP_4_MADA_DA_Instruction_AnalyseDonnees_v2_1.pdf SOP_mapping_stratification_V1_2_20210515_clean.pdf	7
R code Scripts and Raw Data	calcul_defor_gain_for_export_2021_2022.R suivi_2021_2022.R defor_stat_lu_2021_2022_v3.xls	8
Activity data spatial data	CARTE_STRATIFICATION_2021_2022_LOFM_4326_BUFFER_55_56_0.tif style_carte_stratif_avec_buffer.qml	9

Madagascar Forest Reference Emission Level (FREL)	ccnucc_frel_madagascar_eng_fb_abe_finalbnccc.pdf	10
Calculation files	deforestation_2021-2022.xls degradation_2021-2022.csv data_with_stratum_preaa2122.csv GUIDE_FICHIERS_25122024_v0 en.docx GUIDE_FICHIERS_25122024_v0.pdf Tableau des données et documents21-22.pdf MADA_AD_Sampling_design-PREAA-2021-2022.xlsx	
Activity Reports	UN-REDD 2023 Annual Report_final consolidated draft 31 May 2024 for EB approval.docx ABV_Narratif Rapport Unique_2021.docx ABV_Narratif Rapport Unique_2022.docx ALZ_Narratif Rapport Unique_2022.docx BTP_Narratif Rapport Unique_2022.docx MGV_Narratif Rapport Unique_2022.docx MNN_Narratif Rapport Unique_2022.pdf MRT_Narratif Rapport Unique_2022.docx MSL_Narratif Rapport Unique_2022.docx MTD_Narratif Rapport Unique_2022.docx ZHM_Narratif Rapport Unique_2021.docx ZHM_Narratif Rapport Unique_2022.docx AP CAZ PTA 2021_Réalisation S1 2021.xls Rapport 2022 CAZ MEDD.pdf Réalizations désagrégées.xlsx Etude de CDV COMATSA_Livrable 2_0505.pdf Rapport 2022 COMATSA.xlsx Rapport final de suivi Simpona 2022_version validée.pdf Rapport Final_WWF_Revised.docx Realisation_COMATSA_PTA 2021.pdf Rapport2022.pptx TPF_RAPPORT_ANNUEL_2022_Mise en forme.doc Rapport étude BNS SWM Makira 2021.pdf RAT_2021_PTA_2022_Makira.pdf RAT_Makira_2022.pdf	11
Supporting documentation	Additional explanation MCAR 5 and MCAR 32 with screenshot.docx Video_Additional explanation MCAR 5 and MCAR 32.mp4	12

3.5 REDD Country Visit

Following the desk review and the development of an audit plan, SCS conducted a field tour to verify the accuracy of the results reported by program personnel in the ER-MR, as well as the program monitoring activities as described in the ER-MR, to gather the necessary evidence and ensure it was in compliance with the FCPF program requirements.

The country visit also helped assess the environmental conditions forests firsthand, to investigate some issues or questions identified during the assessment of the documentation related to the reported

monitored data and parameters, program activities, interventions and risk management and to identify any discrepancies or risks.

In pursuance of the above objectives, the audit team conducted the field tour in the Republic of Madagascar on the dates between the 8th of April 2025 and the 11th of April 2025.

During the site visit, we visited representants from the local communities and government officials from the communities of Moramanga and Andasibe. Interviews were conducted with local community representatives involved in forest patrolling, as well as regional and national REDD+ focal points and technical staff responsible for monitoring, reporting, and activity data. Discussions focused on forest surveillance and reporting, satellite-based land-use monitoring, activity data generation and QA/QC procedures, including the main drivers of deforestation and degradation.

Community representatives described their roles in forest surveillance, reporting of illegal activities, and awareness-raising. Government and technical staff provided detailed explanations of the REDD+ institutional framework, the Reference Level and MRV systems, activity data generation, QA/QC procedures, and strategies to address displacement, reversals, and double counting.

Key observations included consistent identification of slash-and-burn agriculture as the primary driver of deforestation, evidence of active community-based monitoring, ongoing improvements to the satellite monitoring and data processing methodologies.

The main activities carried out by the audit team were as follows:

- Perform a risk-based review of the project area and project activities to ensure that the program, methods and methodologies for the monitoring and quantification of GHG emission reductions and removals for the verification period, conforms with the FCPF Methodological framework requirements.
- Interviewed program personnel to gather information regarding the monitoring procedures, the project activities, stakeholder engagement, implementation, and risks.
- Interviewed program personnel and government officials from the BNCCREDD+ and officials, representants from the local communities of Moramanga and Andasibe, including park rangers who confirmed the baseline conditions, the assumptions used in the calculations and the validity of the information presented in the ER-MR.
- Interviewed government officials and assessed official documentation to verify claims about land use and land cover change assessment and visual interpretation done with the Collect Earth tool. We verified their knowledge on the monitoring procedures, the data collection processes and the program activities implemented in this monitoring period.
- Interviewed local stakeholders and community leaders from the communities of Moramanga and Andasibe involved in the program activities to confirm the claims of the project proponents with respect to the extent of community engagement and the program activities undertaken during this reporting period and confirmed the information provided in the ER-MR.
- On the field, visited field plots to verify and confirm land use and land cover change, landscape conditions, evidence of threats, and landowner characteristics.
- Took GPS measurements to document plot locations and key landmarks through the program area, took pictures and collected observational evidence during the site visit.

- On the field, we verified the reversal-mitigation thorough direct observation the actions taken to ensure stakeholder support, institutional capacities, and practices to prevent slash and burn agriculture (“Tavy”) and uncontrolled extraction of wood energy ton ensure they are in place and functioning as described in the ER-MR. We also interviewed local stakeholders to confirm that the actions identified in the ER-MR reversal risk assessment are actively implemented and maintained.

4. SUMMARY OF FINDINGS

4.1 Implementation status of the ER Program and update on drivers

The SCS audit team reviewed the Monitoring Report, calculation workbooks, standard operating procedures (SOPs) and supporting documentation provided by the REDD Country Participant (detailed above in section 3.4) and concludes that sufficient information has been included to explain any changes in major drivers in the ER Accounting Area and the status of the implementation of the strategy to mitigate and/or minimize potential displacement.

4.2 Methodological Deviations

The audit team conducted a comprehensive assessment of the methodological deviations implemented during this monitoring period that included the integration of the corrections mentioned below:

1. Above-ground biomass emission factors

Incorrect above-ground biomass values for secondary forest, agroforestry, and plantations were mistakenly copied into the reference level calculations, leading to wrong inputs for these land-use types

2. Root-to-shoot ratio values

The plantation root/shoot ratio was copied incorrectly (1.0 instead of 3.24), causing an error in below-ground biomass calculations.

3. Adjustments to Soil Organic Carbon (SOC) estimates to account for legacy emissions

The ER quantification originally assumed that SOC emissions occurred in a single year, which was not accurate. The estimates were update to divide the emissions by 20 years to account for SOC legacy emissions that follow deforestation, following the IPCC 2.25 equation to estimate annual change in organic carbon stocks in mineral soils.

4. The revision of the program area.

The program area used in the previous report was incorrect (6,980,308.19 ha instead of 6,913,969 ha). The correct value, from an existing shapefile, was now reviewed and applied. All estimates were recalculated accordingly.

SCS confirmed the changes were implemented in alignment and compliance with the IPCC guidelines, the FCPF requirements and the Validation and Verification Guidelines. The difference between the Reference Level ERs reported and the ERs corrected resulted in a total of **141,026 tCO₂e ERs**. These ER units are to be cancelled from the Uncertainty Buffer to comply with the latest version of the FCPF Buffer Guidelines, (v4.4, Section 8, paragraph 40²).

² https://www.forestcarbonpartnership.org/sites/default/files/documents/fcpf_buffer_guidelines_v4.4.pdf

Furthermore, SCS confirmed through interviews with the program team and the FMT team the inclusion of the deviations was approved by the FMT and ensured that such deviations are not leading to any over or underestimation of Emission Reductions.

4.3 System for measurement, monitoring and reporting emissions and removals occurring within the monitoring period

4.3.1 Forest Monitoring System

SCS performed a comprehensive assessment of the Monitoring System in place of the ER Program. The primary component of the monitoring system (Madagascar's National Forest Monitoring System, "NFMS") integrates activity data on land-use, land-cover, and land-use change, generated mainly through remote-sensing analyses carried out by the LOFM. The LOFM relies on satellite imagery, cartographic databases, and spatial analyses, supported by the Collect Earth tool, to visually interpret high-resolution imagery and monitor deforestation and forest degradation. These analyses are complemented by field surveys, stakeholder interviews, and community-based monitoring in areas with limited government presence.

- Through independent checks on land cover classification maps using ancillary high-resolution imagery covering the reporting period, the auditors confirmed that the activity data component of the Forest Monitoring System is functioning and is able to produce high-quality data.
- Through review of the monitoring report and supporting documentation and interviews with the program personnel, the auditors confirmed that the program has in place the necessary controls to address relevant sources of potential errors, omissions, and misstatements in place.

The auditors do not propose opportunities for future technical improvements of areas identified as presenting a high risk of future non-compliance.

4.3.2 Forest Monitoring Approach

The Forest Monitoring Approach has not been updated since last verification period. SCS confirmed that Section 2.2 of the ER-MR correctly indicates that for this monitoring period, "there was no change on the monitoring approach".

4.3.3 Measurement, monitoring and reporting approach

The assessment team conducted the following activities to evaluate the measurement, monitoring and reporting approach:

- Expert review of the Monitoring Report, calculation workbooks, SOPs and supporting documentation, to confirm that the equations and methods used for the quantification and monitoring are consistent with the Reference Level.
- Independent review of the activity data using ancillary satellite imagery to confirm the accuracy of the land cover classification and the consistency with the approach applied for the Reference Level.

- Independent recalculation of the equations used to calculate the emissions and removals during the monitoring period and the subsequent emissions reductions as compared to the Reference Level.

Additionally, the SCS assessment team confirms that the link between the equation parameters, the parameters under fixed data, the monitored parameters and data used for the measurement, monitoring and reporting are correct and free of errors and misstatements.

4.4 Fixed Data and Parameters

The audit team reviewed the ER-MR, SOPs, quantification workbooks and supporting documentation. After the assessment of the data and parameters used in the measuring, monitoring and reporting, the assessment team confirmed that all fixed data and parameters have been reported and are consistent with the guidelines provided by the FCPF Methodological Framework requirements and the IPCC best practice guideline as stated in Criterion 5. Additionally, SCS confirms that the data and information are available publicly in accordance with Criterion 6 of the FCPF Methodological Framework requirements.

4.5 Monitored Data and Parameters

After the review of the ER-MR, calculation workbooks, SOPs and supporting documentation, SCS confirms that all data and parameters subject to monitoring have been reported in conformance with the FCPF program requirements and the guidelines provided in the ER Monitoring Report template. The assessment of the monitored parameters is described as follows:

Monitored Data and Parameter(s):	Area of deforestation (forest to non-forest) <ul style="list-style-type: none"> - Dense humid forest - Degraded humid forest - Secondary forest - Agroforestry - Plantations Area of degradation <ul style="list-style-type: none"> - Primary forest to disturbed forest, - Primary forest to agroforestry - Primary forest to plantations - Disturbed forest to agroforestry - Disturbed forest to plantations Area of enhancement (not reported in this monitoring period)
Free of error and material misstatement:	Yes
Assessment:	<ul style="list-style-type: none"> ▪ The audit team conducted interviews with the ER Program team to verify the collection, analysis, and methodological procedures, as well as the Standard Operating Procedures (SOPs) applied in generating the activity data. ▪ The audit team performed independent data checks and recalculations to assess the accuracy of each step in

	<p>the monitoring process, from interpretation to data transfer and calculation. This included verification of the program area boundaries, land-use and land-use change (LULUC) classifications and forest-to-non-forest transitions, the number of sample points within the program boundary, stratum boundaries, and area expansion factors.</p> <ul style="list-style-type: none"> ■ A risk-based sample of activity data points was selected and evaluated using high-resolution remote sensing imagery to confirm the accuracy of plot classifications. ■ Moreover, a spatial analysis was performed using ArcGIS and R to verify the program area boundaries, the stratum boundaries, and the stratification process. ■ Additionally, the audit team conducted a literature review of the methodology presented in Olofsson et al. (2014) for the quantification and estimation of areas and associated uncertainties. The review confirmed that the classification analysis is reliable and in accordance with the applicable criteria.
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SCS concludes that the data and evidence provided regarding the identification, quantification, and monitoring of the parameters proposed Area of Deforestation and Forest Degradation are sufficient, complete and free of error and misstatements. Furthermore, SCS reviewed the ER-MR and confirmed that publicly accessible links are provided to the monitored data, parameters, and methodological steps in accordance with Criterion 6 of the FCPF Methodological Framework.

5. VERIFICATION OF GHG ASSERTION

5.1 ER Program Reference level for the Reporting Period

The reference level established by the ER Atiala Atsinanana Program is based on a 10-year historical period from 2006 to 2015, aligned with methodological framework criteria. Average annual historical emissions for the reference level were estimated using forest inventory-based emission factors combined with remote-sensing–derived activity data from multiple sources, including SPOT, Landsat, Sentinel, and high-resolution Google Earth and Planet imagery, to quantify GHG emissions and removals from deforestation, forest degradation, and carbon stock enhancements.

The assessment team took the following steps to verify the correctness and completeness of the data, methods and procedures used on the estimation of the Reference Level for this reporting period:

- Independently reviewed the ER program’s Forest Reference Level quantification to assess whether the data, methods, and assumptions used to quantify the GHG emissions and removals during this reporting period are consistent with the Reference Level and with the Monitoring Plan as described in the ER Monitoring Report.
- Conducted a comprehensive assessment of the methodological deviations identified during this second monitoring report to ensure the integrity of the corrected Reference Level estimates.

This assessment included a detailed review and recalculation of the integration of corrected values for 1) above-ground biomass emission factors, 2) root/shoot ratio values, 3) adjustment of the SOC estimates to account for legacy emissions, and 4) the revision of the program area. For more information about the methodological deviations, please see section 4.2 of this report.

- During the assessment, the audit team identified discrepancies between the program area used in the calculations of the Reference Level and the shapefile provided in the calculation of the estimates of GHG ERs. In response, a re-review of the program area was undertaken to reconcile these differences and ensure that the program area applied in the Reference Level calculations is accurate, consistent, and appropriately documented. Following this re-review, all quantification estimates were recalculated. The updated areas of activity data were confirmed to be consistent with the revised program area and were applied uniformly across the different steps of calculation of the GHG emission reductions (ERs) estimates.
- Verified that the updated above-ground biomass values, root-to-shoot ratios, and SOC legacy emission calculations were accurately reflected in the revised Reference Level estimations and applied consistently across all relevant land-use categories.
- Conducted an independent recalculation and quantification of Reference Level emissions for deforestation, degradation, and carbon stock enhancements to confirm that no errors were present in the computation of net emissions and removals per land class, and in the determination of their relative contributions to overall GHG emissions and removals resulting from land-use conversions.
- Confirmed that the corrected program area was appropriately integrated into all the steps of the quantification and estimation of the GHG emissions and removals. Confirmed the program area through independent recalculation of the spatial files submitted.
- The replication of the quantification included recalculation of the following: activity data, the number of sample points within the program boundary, program area stratification, area calculated for each stratum, area of conversions within each stratum, and the quantification of GHG emissions and removals resulted from deforestation, forest degradation, and carbon enhancements.

Based on the aforementioned assessment, SCS confirms that the Reference Level for this reporting period is accurate and free of material error.

The numbers in the table below correspond to the portion of the Reference Level that was assessed during this Reporting Period. The Reporting Period aligns with complete calendar years vintage.

Year of monitoring/ reporting period t	Average annual historical emissions from deforestation over the Reference Period (tCO ₂ -e/yr)	If applicable, average annual historical emissions from forest degradation over the Reference Period (tCO ₂ -e/yr)	If applicable, average annual historical removals by sinks over the Reference Period (tCO ₂ -e/yr)	Adjustment, if applicable (tCO ₂ -e/yr)	Reference level (tCO ₂ -e/yr)
2021	10,839,532	416,067	-26,255		11,229,344

2022	10,868,900	416,067	-39,383		11,245,584
Total	21,708,432	832,134	-65,638		22,474,928

5.2 ER program emissions by sources and removals by sinks

The audit team took the following steps to verify the correctness and completeness of the data, methods and procedures used to estimate the ER program emissions by sources and removals by sinks for this reporting period.

- Independently reviewed the ER program’s reporting period quantification to assess whether the data, methods, and assumptions used to quantify the GHG emissions and removals are in conformity and in alignment with the Reference Level quantification.
- Selected a random sample of interpretation data points from the land cover change analysis and independently assessed the LULC classification with other sources of remote sensing data to ensure the accuracy of the classification.
- Independently recalculated and quantified the ER program emission reductions and removals emission for this reporting period. This included recalculation of activity data, the number of sample points within the program boundary, program area stratification, area calculated for each stratum, area of conversions within each stratum, and the quantification of GHG emissions and removals resulted from deforestation and forest degradation, since no carbon enhancements were included over this monitoring period, due to the limitations to detect forest growth in such a short period (2020-2022).
- Conducted an independent review of the Monitoring report, SOPs, calculation spreadsheets and supporting documentation to evaluate the consistency, completeness, and transparency of the monitoring activities.

The assessment team concludes that the data, methods, and equations used for the quantification, monitoring and reporting of the ERs are correct and have been reported with a transparent and coherent step-by-step process that enabled the reconstruction of the estimates and are consistent with the Reference Level. SCS confirms that the reported ERs are materially accurate and comply with the requirements of the FCPF program.

The numbers in the table below correspond to the portion of the Monitoring Period that was assessed during this Reporting Period. The Reporting Period aligns with complete calendar years vintage.

Year of reporting period <i>t</i>	Emissions from deforestation (tCO _{2-e} /yr)	If applicable, emissions from forest degradation (tCO _{2-e} /yr)*	If applicable, removals by sinks (tCO _{2-e} /yr)	Net emissions and removals (tCO _{2-e} /yr)
2021	5,228,641	243,193	0	5,471,834
2022	5,242,884	243,193	0	5,486,077
Total	10,471,525	486,386	0	10,957,911

5.3 Uncertainty of Emission Reductions

5.3.1 Uncertainty analysis

The audit team took the following steps to assess whether the uncertainty in the quantification of GHG emissions and removals has been correctly identified and assessed in conformance with Criterion 7, 8 and 9 from the FCPF Methodological Framework:

- Reviewed the Monitoring Report, data, calculation workbooks, SOPs and supporting documentation to verify that all potential sources of uncertainty from the activity data, the reference level, and emission factors have been identified and assessed in conformance with the FCPF program requirements.
- Applied expert judgement and best practices as outlined in the IPCC guidance to confirm that a comprehensive approach to mitigate and reduce key areas of uncertainty have been addressed to minimize systematic errors (bias) through the implementation of consistent and comprehensive Quality Assurance / Quality Control (QA/QC) procedures.
- Applied expert judgement to assess whether all assumptions and sources of uncertainty associated with activity data, emission factors, the equations and calculation methods that contribute to the uncertainty of the estimates of emissions and removals were assessed with a stepwise approach and are correct.
- Applied expert judgement to conclude that the assessment of sources of uncertainty in quantification of the Emissions Reductions is justifiable.

Based on the aforementioned assessment, SCS confirms that a stepwise approach has been applied correctly for the identification of sources of random and systematic errors related to the activity data and emission factors for the estimation of total ERs and is in compliance with the FCPF program requirements.

5.3.2 Uncertainty of the estimate of Emission Reductions

The audit team took the following steps to evaluate the application of Monte Carlo simulation for the quantification of uncertainty of the estimate of Emissions Reductions and to confirm its accuracy:

- Performed an independent review of the selection of sources of (residual) uncertainty included in the analysis, including the recalculation of their standard error and confidence intervals.
- Independently reviewed the steps, assumptions, and parameter values stated in the Monitoring Report and compared them to those in the calculation workbooks to ensure consistency and completeness.
- Conducted an independent run of the Monte Carlo analysis using the FCPF template to ensure that the simulation was carried out accurately and in accordance with the IPCC guidelines and the MF.
- Through the assessment of the Monte Carlo analysis, we confirmed that all underlying sources of error in data and methods for integrated measurements of deforestation, forest degradation and enhancements have been combined into a single combined uncertainty estimate and have been reported at the two-tailed 90% confidence level (Criterion 9).

- The audit team reviewed Criterion 22 of the MF regarding the conservativeness factor and confirmed that the appropriate **uncertainty discount of 8%** was identified and correctly applied to the Reporting Period emissions reductions.

Based on the aforementioned review, SCS confirms that the Emission Reductions uncertainty estimation was done in conformance with the Methodological Framework Criterion 7, 9, and 22 and the Guidelines on the application of the Methodological Framework Number 4 On Uncertainty Analysis of Emission Reductions. SCS concludes that the assessment of the application of the Monte Carlo simulation and the quantification of the Uncertainty of the Emission Reductions were performed correctly

5.3.1 Sensitivity analysis and identification of areas of improvement of the MRV system

The audit team took the following steps to assess the sensitive analysis conducted to estimate the relative contribution of each parameter to the overall uncertainty:

- Performed an independent review of the selection of sources of (residual) uncertainty included in the analysis, including the recalculation of their standard error and confidence intervals.
- Independently reviewed the steps, assumptions, and parameter values stated in the Monitoring Report and compared them to those in the calculation workbooks to ensure consistency and completeness.
- Conducted an independent run of the sensitivity analysis using the FCPF template to ensure that the simulation was carried out accurately and in accordance with the IPCC guidelines and the MF.
- Reviewed the sensitivity analysis outputs to ensure that the ER program has identified the highest sources of uncertainty (activity data associated with deforestation) and has reported so transparently and completely in the Monitoring Report and the calculation workbooks.

Based on the above steps, the assessment team concludes that the sensitivity analysis was conducted correctly and in alignment with Criterion 7 and 9 and the Methodological Framework Number 4 on Uncertainty Analysis of Emission Reductions.

5.4 Transfer of Title to ERs

5.4.1 Ability to transfer title

SCS received confirmation from the FMT that the ER Program has the clear and uncontested ability to transfer title of 100% of the ERs.

The VVB is not required to assess the correctness of this information.

5.4.2 Program and Projects Data Management System

SCS took the following steps to confirm the ER Program's Data Management System is in conformance with the ER Program Requirements:

- Through discussions with the program team and review of the Monitoring Report, SCS confirmed that the ER Program's Data Monitoring System has a fully documented Data Management

System in place called the “Information System on REDD+ Initiatives and Programs (SIIP)”, hosted within the National REDD+ Coordination Office (BNCCREDD+). The system collects, processes, and consolidates information related to all forest carbon initiatives across the national territory to prevent geographical overlaps and double carbon counting.

- The SIIP system operates within the national framework established under Madagascar’s 2018 National REDD+ Strategy, in alignment with the ERPD and the REDD+ readiness roadmap. It stores key program information, including the geographical boundaries of the ER Program, the scope of activities, carbon pools, the reference level, and the volume of ERs generated, including links to the Monitoring Report and Standard Operating Procedures to ensure transparency and prevent multiple claims to ER Title. SCS further confirms that the operational procedures of the Data Management System comply with the FCPF Methodological Framework criteria.
- However, due to contractual issues with the web hosting provider, the system is currently not accessible online. Thus, the auditors have issued an mCAR (see Section 6.0) requiring that the Program and Project Data Management System be fully operational by the next verification. At this point, SCS nor the FMT have deemed that the Data Management System requires an audit of operations.

5.4.3 Double counted ERs

The audit team conducted due diligence and an independent search across multiple registries and confirmed that the ERs accounted for under the Atiala Atsinanana Emission Reduction Program have not been issued elsewhere or credited more than once.

Through a finding (see MCAR37 in Appendix 1) and interviews with program personnel, the team identified two VCS projects located near the program area. However, after reviewing the provided documentation and supporting evidence, the audit team confirmed that, as for now, no double counting of ERs has occurred for this area over the crediting period.

Furthermore, the audit team confirmed through interviews and supporting documentation that SIIP national registry for tracking all forest carbon initiatives is under development and expected to be fully operational by the next monitoring period.

The number of ERs that have been double counted is zero.

5.5 Reversals

5.5.1 The occurrence of major events or changes in ER Program circumstances that might have led to Reversals during the Reporting Period compared to the previous Reporting Period(s)

Through the review of the ER-MR, the program documentation, field visit, in-site interviews with farmers and stakeholders, and supporting evidence provided the assessment team concludes that there have not been any natural or human-induced reported events or changes in ER program circumstances that have led to reversals during this Reporting Period compared to the previous reporting period.

The assessment team confirms that no reversals have been previously transferred to the Carbon Fund, nor have occurred during this Reporting Period.

5.5.2 Quantification of Reversals during the Reporting Period

No reversal were observed during this 2021–2022 Reporting Period. Likewise, no ER reversals were associated with the prior reporting period.

5.5.3 Reversal Risk Assessment and Buffer ERs

Through the review of the ER-MR, the program documentation, field visit, in-site interviews with farmers and stakeholders and supported evidence provided the audit team concludes that the Buffer Guidelines have been correctly followed and used to determine the total reversal risk set-aside percentage of **28%** (see table below), that comprises a total of **2,966,783 tCO₂e** (see table in Section 5.6, row L).

Risk Factor	Risk indicators – Assessment by VVB	Resulting reversal risk set-aside percentage
Default risk	N/A	10%
Lack of broad and sustained stakeholder support	The assessment team assessed the stakeholder support of the ER Program. The assessment team determined that a LOW risk rating was appropriate through a complete review of the ER Program documentation and supporting evidence provided on the implementation of safeguards, the benefit sharing plan, grievance redress mechanisms, the consultation and engagements shown with the rural communities, the private sector, and other stakeholders.	0%
Lack of institutional capacities and/or ineffective vertical/cross sectorial coordination	The assessment team assessed the risk associated with institutional capacity and cross-sectoral coordination of the ER Program in Atiala Atsinanana, Republic of Madagascar. Based on the review of the ER Program documentation and supporting evidence, the audit team concluded that the use of a high-risk rating remains appropriate. Despite an established REDD+ governance framework supported by national strategies intended to strengthen coordination across political, institutional, and sectoral levels, the mechanisms and systems currently in place remain relatively new. In addition, challenges due to the lack of intersectoral coordination —one of the indirect drivers of deforestation— persist given the scale and complexity of the Program. Continued support from	10%

	<p>BNCCREDD+ is needed to further strengthen institutional capacity and ensure effective multi-sectoral coordination. Therefore, the HIGH risk rating remains justified.</p>	
<p>Lack of long term effectiveness in addressing underlying drivers</p>	<p>The audit team assessed the program interventions and actions taken to reduce the risks from the main drivers of deforestation and forest degradation — particularly slash-and-burn agriculture (“tavy”), uncontrolled wood-energy extraction, and pressures associated with high-value commodity crops driving deforestation— to ensure avoidance of reversal. The assessment team reviewed the ER-MR, the program documentation and supporting evidence confirming the agreements between the ER Program and the World Bank, and the coordination between the national government and provincial governments for program implementation.</p> <p>While Madagascar has made important progress in establishing a legal and regulatory framework supportive for REDD+, sustained institutional strengthening, capacity-building, and consistent application of regulations are still required to achieve the intended impact. The Program activities are implemented to improve agricultural practices, agroforestry, and “no-land” income-generating activities. However, the main drivers are closely tied to rural poverty and food insecurity, meaning households continue to rely on land-based practices for food and subsistence, and these systems require time to shift behavior.</p> <p>Therefore, the audit team concludes that a HIGH risk rating remains justified.</p>	<p>5%</p>
<p>Exposure and vulnerability to natural disturbances</p>	<p>The assessment team reviewed the ER Program documentation and supporting evidence related to natural disturbance risks —specifically fire, pests and diseases, and extreme weather events—and confirms that these risks are generally low in the forests of the Program area. While literature indicates that natural forest fires are uncommon in Madagascar, and mostly limited to savannah habitats, fire occurrences are predominantly due to human activities and do present a risk. Regarding pests and diseases, no major outbreaks have been documented in the rainforests of Madagascar. Although cyclones occur along the east coast, recent</p>	<p>3%</p>

	official data do not show significant forest loss attributable to these events. Based on the aforementioned assessment, the audit team concludes that a MEDIUM risk rating remains justified.	
	Total reversal risk set-aside percentage	28%
	Total reversal risk set-aside percentage from ER-PD or previous monitoring report (whichever is more recent)	28%

5.6 Calculation of emission reductions

		2021	2022	Total
A	Reference Level (tCO₂-e) (Section 5.1)	11,229,344	11,245,584	22,474,928
B	Net emissions and removals under the ER Program (tCO₂-e) (Section 5.2)	5,471,834	5,486,077	10,957,911
C	Emission Reductions during Reporting Period (tCO₂-e) (A-B)	5,757,510	5,759,507	11,517,017
D	If applicable, number of Emission Reductions from reducing forest degradation that have been estimated using proxy-based estimation approaches (use zero if not applicable)	0	0	0
E	Number of Emission Reductions estimated using measurement approaches (C-D)	5,757,510	5,759,507	11,517,017
F	Percentage of ERs (A) for which the ability to transfer Title to ERs is clear or uncontested (Section 5.4.1)	100%	100%	100%
G	ERs for which the ability to transfer Title to ERs is unclear or contested because they are sold, assigned or otherwise used by any other entity for sale, public relations, compliance or any other purpose (Section 5.4.3)	0	0	0
	If applicable, any buffer replenishments	0	0	0

		2021	2022	Total
H	Total ERs (D+E)*F-G minus, if applicable, any replenishments	5,757,510	5,759,507	11,517,017
I	Conservativeness Factor to reflect the level of uncertainty from non-proxy based approaches associated with the estimation of ERs during the Crediting Period (Section 5.3.2)	8%	8%	
J	Emission Reductions allocated to the Uncertainty Buffer (0.15*D/C*H)+(I*E/C*H)	460,600	460,760	921,360
K	Total reversal risk set-aside percentage applied to the ER program (Section 5.5)	28%	28%	
L	Emission Reductions allocated to the Pooled Reversal Buffer (H-J)*K	1,483,134	1,483,649	2,966,783
M	Number of FCPF ERs (H-J-L)	3,813,776	3,815,098	7,628,874

6. NON-COMPLIANCES AND OBSERVATIONS

As part of the verification process, any potential or actual discrepancies and non-compliances with the FCPF program requirements were identified and resolved through the issuance of findings. Findings are the formal mechanism used by SCS to identify any actual or potential areas of risk or concern.

This verification was comprised of three main formal rounds of findings with two additional rounds to clarify and/or request corrective actions to the findings submitted. The findings were issued to the ER Program personnel using a proprietary approach tailored for this engagement, termed the Findings Presentation Document. This gave the ER Program personnel the opportunity to respond to the findings and allowed for efficient and transparent tracking of the current status of each finding. The following discusses the types of findings that were issued during the assessment process.

A Minor Corrective Action Request (mCAR) was issued when the assessment team determined that there was not enough information to make a decision regarding conformance:

- The evidence provided to demonstrate conformity is insufficient, unclear or not transparent, but does not lead to a material error, omission or misstatement, and/or a breakdown in the systems delivery
- Non-material errors, omissions or misstatements have been made in applying assumptions, in data or calculations

A Major Corrective Action Request (MCAR) was issued when the assessment team has identified that:

- The evidence provided to demonstrate conformity is insufficient, unclear or not transparent and may lead to a material error, omission or misstatement, and/or a breakdown in the systems delivery
- Underlying assumptions used to develop the reported estimates²⁶ are not supported by data
- Material errors, omissions or misstatements have been made in applying assumptions, in data or calculations
- Non-compliance with the Verification criteria
- The REDD+ Country Participant has failed to implement or made inadequate progress with the mCARs from the previous verification

An observation (OBS) was issued when:

- There was no objective evidence to prove that there was a non-conformity, but the VVB observed practices and/or methods that could result in future MCAR and mCAR
- The VVB identified an area of the Forest Monitoring System that requires attention and/or adjustment in future monitoring and reporting
- An area where immaterial discrepancies exist between the observations, data testing results or professional judgment of the assessment team and the information reported or utilized (or the methods used to acquire such information) within the ER Monitoring Report.
- An area where the expert judgement of the assessment team suggests that there are opportunities for improvement in the areas falling within the assessment scope.

As part of the audit process, 38 MCARs, 1 mCARs and 0 OBS were issued. All MCAR findings issued by the audit team during the audit process were satisfactorily addressed by the ER Program personnel and were closed. One mCAR remains open (mCAR 39) and is required to be addressed at the next verification. All



findings issued during the audit process, and the impetus for the closure of each such finding, are described in Appendix 1 of this report.

*APPENDIX 1: OVERVIEW OF NON-COMPLIANCES & OBSERVATIONS ISSUED DURING THE VERIFICATION
BY THE VERIFICATION TEAM*

MCAR 1 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: Final ER PD MDG6_20180606_Posted_0.pdf;
ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx; generate_random_points_2021_2022.R;
CARTE_STRATIFICATION_2021_2022_LOFM_4326_BUFFER_55_56_0.tif

Finding: Criterion 14 of the Methodological Framework states “Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area.”

And, Indicator 14.1 states “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level.”

Section 9(b) of the ER-PD states for Activity data with respect to the project’s monitoring approach: “Activity Data (AD): The data on the magnitude of human activity resulting in emissions or removals taking place during a given period of time, will be measured and monitored following the same methods used for the defining this in the RL (Indicator 14.2 of the CF MF);”

Section 3.2 of the monitoring report states for the monitored parameter ‘ $A'(j,i)$, $A'(i,j)$ ’:

“The sample size was estimated through an iterative approach and using proportion of total deforestation as the variable of interest:

- First of all, 300 sampling units were collected per stratum (Stratum 11, 22, 55 and 56) instead of stratum 12 where 150 were collected: this gives a total of 1,350 points.
- A calculation of the sample size was done, and as a result 1,443 additional samples were added in all strata: 601 samples for strata 11, 18 samples for strata 12, and 824 samples for strata 55.
- The total number of samples analyzed was: 2793.”

It is not clear whether the stratification layer given to the audit team (‘CARTE_STRATIFICATION_2021_2022_LOFM_4326_BUFFER_55_56_0.tif’) is the same dataset as ‘PREAA.tif’ that is used as an input in the R code ‘generate_random_points_2021_2022.R’. Please confirm if the audit team has the correct input stratification layer, so that we may assess the script ‘generate_random_points_2021_2022.R’.

Project Personnel Response:

Yes, the file: "CARTE_STRATIFICATION_2021_2022_LOFM_4326_BUFFER_55_56_0.tif" is the input data for generating sampling points for activity data collection.

This is the stratification map that contains the five (05) strata: forest remaining forest (11), non-forest remaining non-forest (22), deforestation (12), water (44), buffer 1 (55) and buffer 2 (56).

Auditor Response:

Thank you for the clear response. The audit team confirms that the stratification layer is consistent with what is used in the project's quantification processes. Furthermore, the audit team verified the strata weights the project reports in section 3.2 of the MR. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 2 - Dated 12 Mar 2025 -CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: Final ER PD MDG6_20180606_Posted_0.pdf;
ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx; generate_random_points_2021_2022.R

Finding: Criterion 14 of the Methodological Framework states "Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area."

And, Indicator 14.1 states "The ER Program monitors emissions by sources and removals by sinks included in the ER Program's scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level."

Section 9(b) of the ER-PD states for Activity data with respect to the project's monitoring approach: "Activity Data (AD): The data on the magnitude of human activity resulting in emissions or removals taking place during a given period of time, will be measured and monitored following the same methods used for the defining this in the RL (Indicator 14.2 of the CF MF);"

Section 3.2 of the monitoring report states for the monitored parameter ' $A'(j,i)$, $A'(i,j)$ ':

"The sample size was estimated through an iterative approach and using proportion of total deforestation as the variable of interest:

- First of all, 300 sampling units were collected per stratum (Stratum 11, 22, 55 and 56) instead of stratum 12 where 150 were collected: this gives a total of 1,350 points.
- A calculation of the sample size was done, and as a result 1,443 additional samples were added in all strata: 601 samples for strata 11, 18 samples for strata 12, and 824 samples for strata 55.
- The total number of samples analyzed was: 2793."

It is not clear whether the audit team has the outputs from the R script '`generate_random_points_2021_2022.R`' in the shared folder with the project. Please provide all inputs and

outputs to the audit team to ensure the script 'generate_random_points_2021_2022.R' may be run and assessed in the same manner as when the project team used it.

Project Personnel Response:

The script 'generate_random_points_2021_2022.R' and its inputs and outputs are located in a zip file that can be downloaded with the link:

<https://drive.google.com/file/d/1a6zpaO48eUSegTdbaLcdkccO2v3kuTto/view?usp=sharing> (name of the file: 'generating_random_points.zip')

Auditor Response:

Thank you for the additional materials. The audit team has one follow-up questions, concerning an assumption with the optimal sampling calculation. The optimal sampling calculation guided the number of the samples the project ultimately chose for the Deforestation class (code '12'), which was 168 samples.

Please explain how Proportions in cells C31 to C37 of workbook 'MADA_AD_Sampling design-PREAA-2021-2022', sheet 'Sample size' were assigned.

Project Personnel Response:

In one hand, it is from the proportion of deforestation (relative frequency of deforestation) of the pilot sample in the different strata that we integrate the values in column C31 – C37 of 'MADA_AD_Sampling design-PREAA-2021-2022'. In the other hand, if there is no deforestation, the value is equal to 0.

The file name where we can find these datas are : "defor_stat_lu_pilot.csv " + the link to the file is : <https://drive.google.com/file/d/1ieRFGHJVfiarNVA96DyC7X6tZqMjlSTR/view?usp=sharing>

The cells corresponding to the proportions seen in C31 to C37 are:

- E3 for strata 11;
- E6 for strata 12;
- E14 for strata 55.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 3 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx;
SOP_2_mada_DA_Instruction_ConceptionRéponse-v2.pdf

Finding: Criterion 14 of the Methodological Framework states "Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and

verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area.”

And, Indicator 14.1 states “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level.”

Section 3.2 of the monitoring report states that Degradation is one of the activities related to monitored parameter ‘ $A'(j,i)$, $A'(i,j)$ ’ and states for the component ‘Source of data and description of measurement/calculation methods and procedures applied’:

“Data collection by interpreters:

Interpreters assess sample units, using the interpretation key as a guide to assess different land use classes and transitions.”

The project provided an informative standard operating procedure (‘SOP_2_mada_DA_Instruction_ConceptionRéponse-v2.pdf’), where section 2.5 illustrates a decision making process to describe how different activity classes, such as ‘degraded forests’, are attributed to sampling units.

However, it is still not clear how ‘degradation’ is defined according to the procedures described in section 3.2 in the parameter table for ‘ $A'(j,i)$, $A'(i,j)$ ’. Please also clearly describe any thresholds that would distinguish a primary forest from a disturbed forest.

Project Personnel Response:

International definitions:

According to international definitions of forest degradation, the FRA 2000 definition is: "Changes within forest categories (e.g., from closed forest to open forest) that negatively affect the stand or site, particularly by reducing productive capacity, are called forest degradation" (FAO, 2000). Productive capacity is no longer limited to timber alone. The current definition limits negative effects to the structure and function of the stand or site. It should be noted that the transition between forest types is only possible if it involves degradation or a transition to secondary forest. The transition from degraded forest to closed or intact forest is less likely and more difficult to find.

A degraded forest is a forest resulting from the degradation of a primary forest; therefore, by looking at the past, we can confirm whether it is a degraded forest or not. On the other hand, secondary forests, and normally plantations, are established after complete clearing of vegetation. Agroforestry systems can be established in

primary, dense, degraded, or even secondary forests. Typically, agroforestry systems (which can be identified by satellite imagery) are located in highly degraded landscapes.

UOT and decision tree for Madagascar:

As footnote of the ER-MR 2021-2022 Report, the team added the decision trees (pages 124 to 133 of SOP2: see the link: [https://drive.google.com/file/d/1Hs3BSGL69kK6_ELrvq5h5-](https://drive.google.com/file/d/1Hs3BSGL69kK6_ELrvq5h5-_lOpDZtJTS/view?usp=sharing)

[_lOpDZtJTS/view?usp=sharing](https://drive.google.com/file/d/1Hs3BSGL69kK6_ELrvq5h5-_lOpDZtJTS/view?usp=sharing)) which exist for each UOT class, but regarding the classification of a forest as degraded, the intervention of the proxy criterion for the definition of "degraded" forests (humid, littoral, sclerophyll, dry, mangroves) is systematically taken into account when deciding whether or not to classify a forest as "degraded."

Use of proxies, REDD+:

Forest degradation is included in the conversion of intact forests to non-intact forests and is accounted for as a change in carbon stocks in the proportion of forest land remaining forest land. Forest degradation generally manifests itself as a change in forest structure, often sudden. Two methods for monitoring degradation can be distinguished: a direct method and an indirect method. The indirect method using proxies was recommended by GOFC-GOLD in 2016 to assess forest degradation. It is possible to use very high-resolution images (Google Earth) to collect information on disturbances such as infrastructure like roads, living areas or others... which would constitute disturbances. Identifying fragmentation is also important and is made possible through the various medium and very high-resolution images available online. These interpretations: the presence of fragmentation and disturbances is crucial for detecting forest degradation because in Madagascar, forest degradation is closely related to fragmentation and the presence of disturbances that can be detected by remote sensing (page 124 of SOP2)

This is the case for degraded rainforests: the presence of disturbances within 100 m around the boundary of the sampling unit plot and/or within the observation plot. Disturbances include: approaching the edge, canopy loss, gaps, fire, and the presence of roads or non-forest areas indicating degradation (e.g., cultivated areas). (p. 27 of SOP2)

The different parameters monitored:

- Annual conversion from forest type j (primary forest, modified natural forest), to non-Forest Land uses i (Non-Forest) in the monitoring period
- Annual conversion from forest type j (primary forest), to forest type i (modified natural forest and plantations) in the monitoring period
- Annual conversion from non-Forest Land use i to forest type j (planted forest or modified natural forest) in the monitoring period

The second point indicates degradation.

The five possible transitions are listed as follows:

Degradation:

PF to Disturbed Forest

PF to Agroforestry

PF to Plantations

DF to Agroforestry

DF to Plantations

In SOP 2: the indications of each class description/interpretation:

Dense humid forest (p24),

Degraded humid forest (p26)

Form 2 of the FCPF on response design also supports this definition (link:

https://docs.google.com/document/d/1aj8afBq_VqJr7yvEORFTq3xjRyyNCBpf/edit?usp=sharing&oid=114326481702439807915&rtpof=true&sd=true)

In conclusion, by definition, forest degradation is the reduction in forest carbon stocks due to anthropogenic disturbances resulting from canopy loss, and not classified as deforestation.

For example, forest degradation represents a gross loss of forest carbon in a mature forest.

Auditor Response:

The audit team confirms that proxy data is used along with remote sensing data, such as Sentinel 2 imagery and derived NDVI, to identify forest degradation. Such proxies included known infrastructure or disturbances, and the project has adequately created 100 meter buffers around such features to aid in degraded forest classification. Furthermore, the audit team visited a secondary forest location during the site visit, which was correctly classified by the project's system. The audit team has no further questions and this finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 4 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx;
calcul_defor_gain_for_export_2021_2022.R; suivi_2021_2022.R;
SOP_4_MADA_DA_Instruction_AnalyseDonnees_v2_1.pdf

Finding: Criterion 14 of the Methodological Framework states "Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area."

And, Indicator 14.1 states "The ER Program monitors emissions by sources and removals by sinks included in the ER Program's scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level."

Section 3.2 of the monitoring report describes how the parameter ' $A'(j,i)$, $A'(i,j)$ ' is monitored and assessed. The project provided an informative standard operating procedure (SOP_4_MADA_DA_Instruction_AnalyseDonnees_v2_1.pdf) that describes the assessment process for this parameter. The project also provided two scripts that represent the assessment process: 'calcul_defor_gain_for_export_2021_2022.R' and 'suivi_2021_2022.R'.

The audit team requests the full set of inputs and outputs related to the quoted R scripts, so that we may efficiently complete the assessment of the project's calculation process.

Project Personnel Response:

The script 'calcul_defor_gain_for_export_2021_2022.R' and its inputs and outputs are located in a zip file that can be downloaded with the link: <https://drive.google.com/file/d/1haXNKXfo9jwXtv-yaCU3NK5lfx2NhUx6/view?usp=sharing> (name of the file: 'combining_csv.zip')

Also, the script 'suivi_2021_2022.R' and its inputs and outputs are located in a zip file downloadable with the link: https://drive.google.com/file/d/1BB_ZKZ-GEzcn8Skyez37SorbPu653oW/view?usp=sharing (name of the file: 'estimates.zip')

Auditor Response:

Thank you for the additional materials. The audit team confirms the scripts can be operated to produce outputs consistent with those provided by the project. The general procedure of the scripts could be clearly followed. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 5 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx;
calcul_defor_gain_for_export_2021_2022.R; suivi_2021_2022.R;
SOP_4_MADA_DA_Instruction_AnalyseDonnees_v2_1.pdf

Finding: Criterion 14 of the Methodological Framework states "Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area."

And, Indicator 14.1 states "The ER Program monitors emissions by sources and removals by sinks included in the ER Program's scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level."

Section 3.2 of the monitoring report describes how the parameter ' $A'(j,i)$, $A'(i,j)$ ' is monitored and assessed. The project provided an informative standard operating procedure (SOP_4_MADA_DA_Instruction_AnalyseDonnees_v2_1.pdf) that describes the assessment process for this

parameter. The project also provided two scripts that represent the assessment process: ‘calcul_defor_gain_for_export_2021_2022.R’ and ‘suivi_2021_2022.R’.

The two R scripts quoted in this finding appear to be very similar, but the audit team would like clarification from the project on whether there are any differences in the types of calculations these scripts conduct.

Project Personnel Response:

The two scripts are different, and the links for downloading them have been updated in the ER-MR 2021-2022 report and in the files guide or “guide des fichiers” in French (can be found respectively in : <https://drive.google.com/file/d/1haXNKXfo9jwXtv-yaCU3NK5lfx2NhUx6/view?usp=sharing> and https://drive.google.com/file/d/1BB_ZKZ-GEmczN8Skyez37SorbPu653oW/view?usp=sharing)

The first one named ‘calcul_defor_gain_for_export_2021_2022.R aims principally to get the combined .csv files of the final activity datas, the map area and datas with statum in one hand, and in the other hand, the second one named ‘suivi_2021_2022’ has the objective to get the estimates and statistics on the deforestation, the degradation, gain, fires in the area of the Program.

Auditor Response:

Thank you for the additional explanation and materials. No further questions about the script ‘calcul_defor_gain_for_export_2021_2022.R’.

However, the audit team needs more details on how the project team takes the output from the script ‘suivi_2021_2022.R’ and assigns these area estimates to different classes in the following table shown in section 3.2 of the MR:

Activity	Type	Area (ha/year)
<i>Deforestation</i>	Dense humid forest	557.90
	Degraded humid forest	7,414.90
	Secondary forest	253.82
	Agroforestry	
	Plantations	84.61
<i>Degradation</i>	PF to Disturbed forest	6,911.57
	PF to Agroforestry	-
	PF to Plantations	-
	DF to Agroforestry	-
	DF to Plantations	-
<i>Enhancement</i>	Secondary forest	-
	Agroforestry	-
	Plantations	-

For instance, the script outputs close to 173.9 ha for ‘Plantations’ deforestation in the output ‘defor_per_lu.csv’, and dividing this by 2 (number of years in the current Reporting Period) gives 86.9. This value is very close to 84.61 listed above, but please provide further details, so that the audit team may confirm our understanding of the connection between ‘suivi_2021_2022.R’ and the MR.

Project Personnel Response2:

The sampling system we used is stratified random sampling. The strata considered are as follows:

- 11: Forest remaining forest
- 12: Deforestation
- 22: Non-forest
- 55: Buffer zone from 0 to 50 m towards the interior of the forests (stratum 11)
- 56: Buffer zone of 50 to 100 m towards the interior of the forests (from stratum 11).

The results presented in the 'defor_per_lu.csv' file correspond to areas obtained by simple random sampling (e.g.: PLM area = 173.89 ha, or 86.5 for one year), while those in the 'defor_strat_lu_2021_2022.csv' file come from stratified random sampling (e.g.: Here, PLM area = 169.21 ha, or 84.61 for one year).

Therefore, it is the second value corresponding to stratified random sampling that was used in the calculations.

Auditor Response2:

The project provided the workbook 'deforestation_2021-2022.xlsx' in folder 'estimation_DA_suivi_2021-2022', which has a table (cell range N5:R11) that answers the audit team's questions.

Two additional questions remain before this finding may be closed:

- How was the total area of 6980308.19 (cell O1 in workbook 'deforestation_2021-2022.xlsx') calculated for this procedure?
- The Area equation for LU 'FHD' (column P in workbook 'deforestation_2021-2022.xlsx') does not include LU level 2 'FG' – LU level 3 'FHD' (worksheet row 17; data row 16) of stratum 55. Please explain this omission.

This finding remains open.

Project Personnel Response 3:

Finally, the origin of value 6,980,308.19 ha was not found; the true value is 6,913,969 ha.

The values in line 17 (relative frequency and wh weight) for calculating the stratified estimate and standard error of the FHD class have been omitted from the formula described in column P. The updated file

"defor_stat_lu_2021_2022_v3" can be found at the following link:

https://docs.google.com/spreadsheets/d/1R5NVa293zpmfpJvrNUbTnkF6s7Zp-De0/edit?usp=drive_link&ouid=114519974924085988913&rtpof=true&sd=true

Auditor Response 3:

- Please provide details on exactly how 6,913,969 ha has been calculated. The audit team is confused about which areas in column I of 'defor_stat_lu_2021_2022_v3' are being included in this total area calculation.
- Thank you for providing an update for the LU 'FHD' calculation. No further questions.

Project Personnel Response 4:

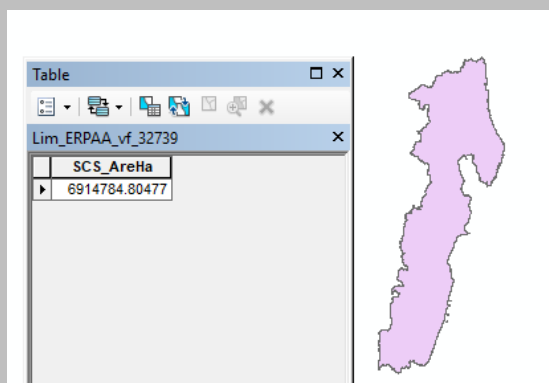
- The value of the program area of 6,980,308.19 hectares reported in the previous monitoring report was wrong.. The correct program area is 6,913,969 ha. This area was derived from the following shapefile: <https://drive.google.com/file/d/13Uc9Y0B4W1ou3Etv-eEUDdxsw2mX72zu/view?usp=sharing> : delimitation of the Program ERP AA. This shapefile has always existed but unfortunately its correct area was not referenced or used for the estimates presented in the 1st monitoring report. As such, all estimates, including those for the reference level were updated to reflect the correct program area. The use of the correct program area has been approved by the FMT.

Regarding the file defor_stat_lu_2021_2022_v3 found at the link: https://docs.google.com/spreadsheets/d/1R5NVa293zpmfpJvrNUbTnkF6s7Zp-De0/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true ; After downloading the file defor_stat_lu_2021_2022_v3, you can see the formulas for calculating the deforestation area by stratum (see cells O11 to R11). We did not use the areas in column I for the DA calculation, but only the areas per stratum calculated from the program area using the formula in the table (see formulas in cells O11 to R11). ; This file was used to calculate the stratified estimate and standard error values for each FHI, FHD, FSS, and PLM strata (see cells N6 and N8). These values will then be used in the DA sheet (lines 35 and 37) of the MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10 file (link : <https://docs.google.com/spreadsheets/d/1VipfbofkqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true>).

LU FHD can be found in lines 4, 7, and 17 (FG or Forest to Grassland or Deforestation) of the defor_stat_lu_2021_2022_v3 file. The related calculation can be found in column P.

Auditor Response 4:

The audit team could not confirm the project area 6,913,969 ha in the shapefile provided (<https://drive.google.com/file/d/13Uc9Y0B4W1ou3Etv-eEUDdxsw2mX72zu/view?usp=sharing>). Please describe the steps of how this was derived.



Additionally, the audit team could not confirm the response provided “After downloading the file defor_stat_lu_2021_2022_v3, you can see the formulas for calculating the deforestation area by stratum (see cells O11 to R11).” The areas derived in file defor_stat_lu_2021_2022_v3.xlsx, cells O11, R11 highlighted in yellow

don't match the ones used in the calculation analysis. Please provide a clear step by step demonstration of how the new areas were derived.

lu category	FHI	FHD	FSS	PLM
Stratified estimate	0.00016	0.0033234	0.000073	0.000024
Variance	0.00000013	0.000000163	#####	#####
Standard error	0.000	0.0004036	0.000	0.000
Margin of error (90% CI)	0.00019	0.00066	0.00007	0.00004
Relative Margin of error (90% CI)	1.16440	0.19980	0.94092	1.64005
Area (ha)	1105.19	22977.81	502.81	167.60

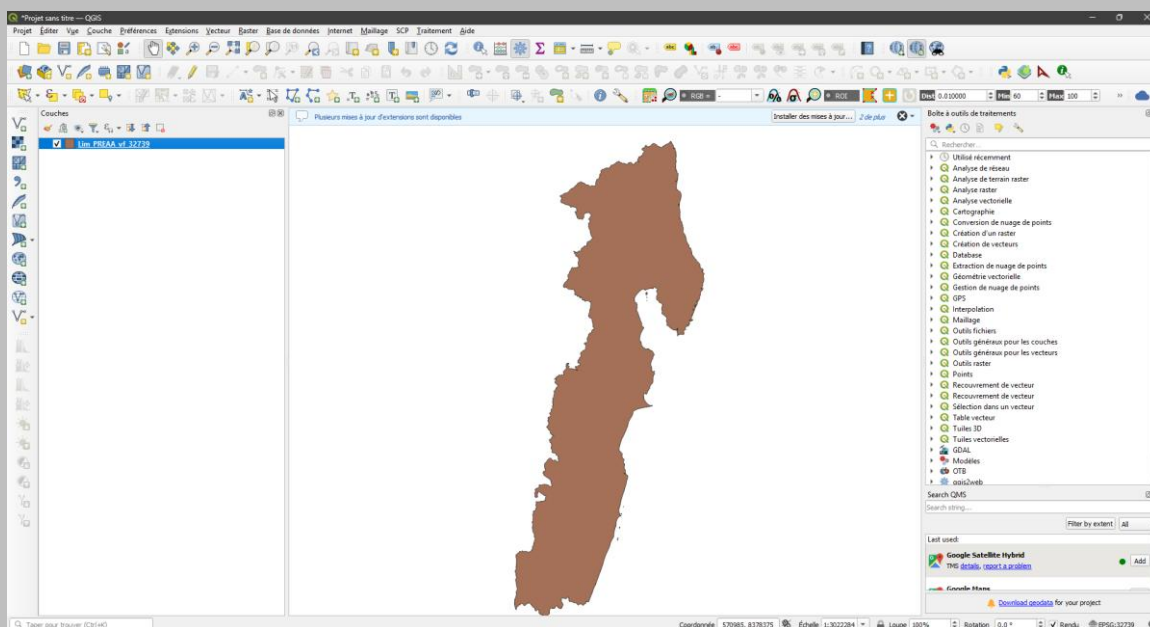
Project Personnel Response 5:

7. Firstly, here is given the PROCESS FOR CALCULATING THE AREA OF THE PRE AA PROGRAM

7.1 GIS Tool Used: QGIS 3.40.10

This tool is used because it is a free, open-source, and user-friendly software offering great flexibility for managing, analyzing, and visualizing spatial data. Its active community and numerous plugins make it easy to extend its capabilities based on project needs. QGIS is also known for its intuitive interface and compatibility with a wide range of data formats, making it both accessible and powerful for geomatics professionals.

Figure: Screenshot of the PRE AA delimitation in QGIS



7.2 Steps for Calculating the Area of the PREAA Program in QGIS

1. Insert the layer "Lim_PREAA_vf_32739".
2. Verify the projection WGS 84 Zone 39S:

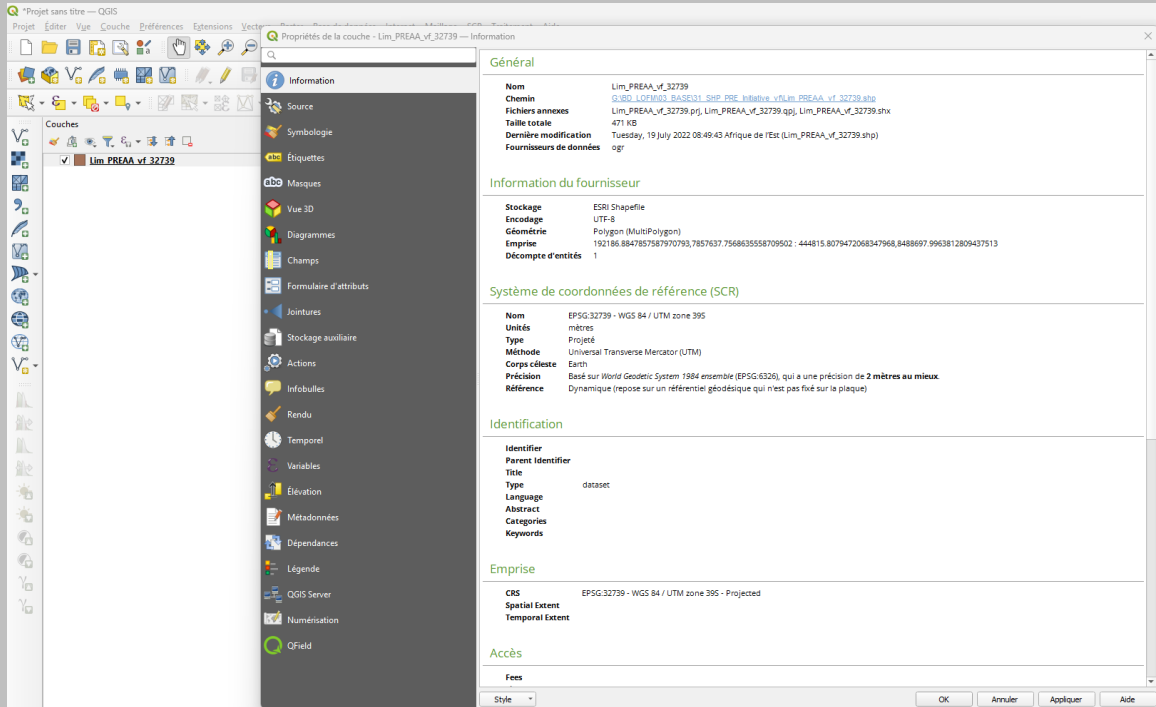
Open the layer properties, then go to the Information tab to check the projection.

We use the EPSG: 32739 (WGS 84 / UTM Zone 39S) projection for the PRE AA Program because it corresponds to the geographical area where the program is located — the central to eastern part of Madagascar. This

projection is part of the UTM (Universal Transverse Mercator) system, which divides the globe into 6° longitude zones, and Zone 39 South specifically covers this region of the country.

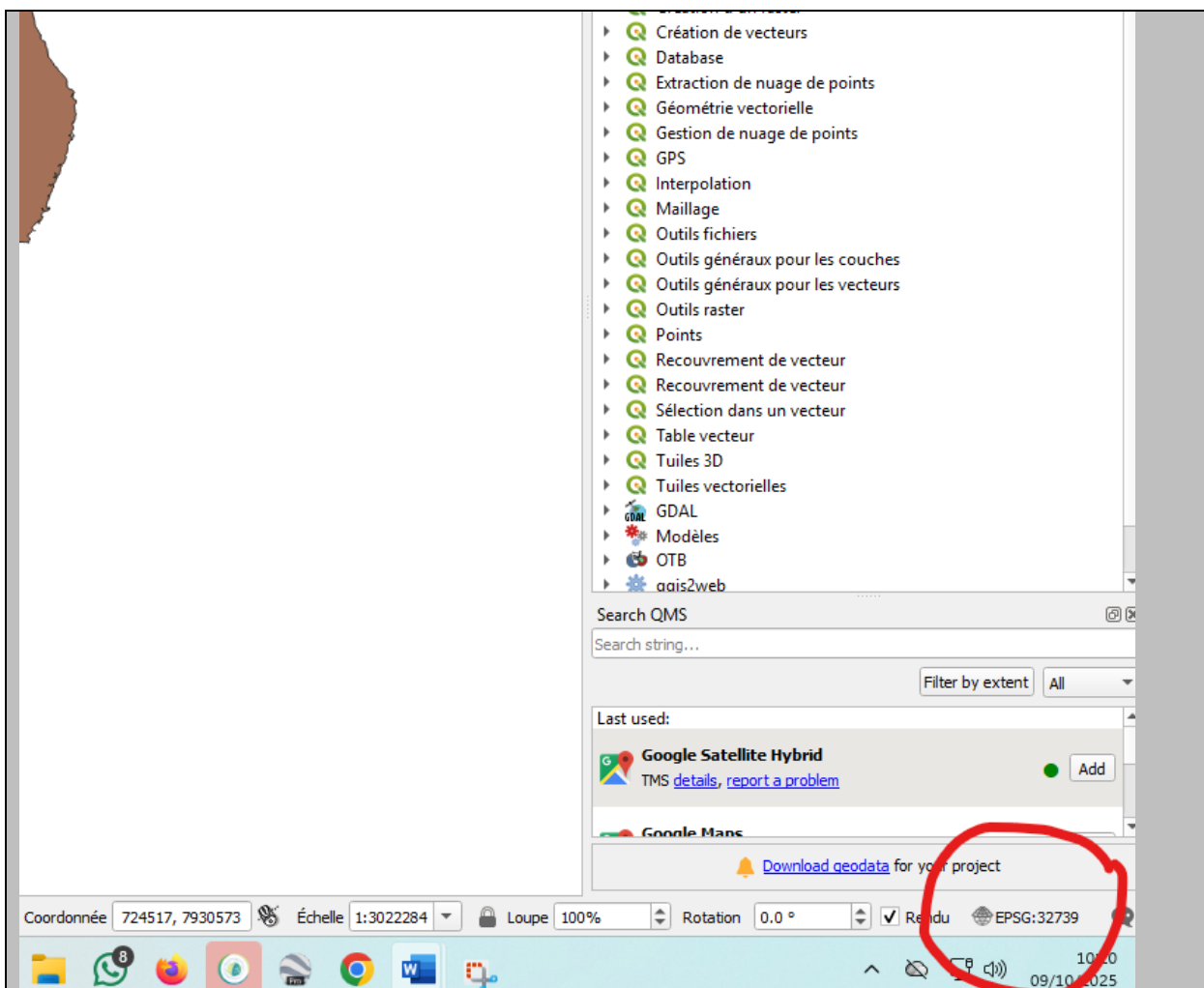
The main advantage of this projection is that it reduces distortions in distance, area, and angle, ensuring better spatial accuracy for field measurements and analyses. By using EPSG: 32739, all PRE AA program data remain consistent, accurate, and easily integrable with other local or national geographic layers.

Figure: Layer properties



- 3 Check the project's projection: EPSG:32739.

Figure: Project's projection



4 Open the attribute table of the layer and calculate the area.

To calculate the area, follow these steps:

- Enable the editing mode of the layer.
- Open the Field Calculator.
- Use the “\$area” function to calculate the area and divide by 10,000 to obtain the area in hectares (ha).

Figure: Calculating the area

Lim_PREEA_vf_32739 — Calculatrice de champ

Ne mettre à jour que 0 entité sélectionnée

Créer un nouveau champ **Mise à jour d'un champ existant**

Créer un champ virtuel

Nom: Area (ha)

Type: 32-bit Entier (32bit)

Longueur du nouveau champ: 10 Précision: 3

Expression: Sarea / 10000

Entité: Prévisualisation: 6913968.625619772

fonction Sarea

Renvoie la surface de l'entité courante. La surface calculée par cette fonction respecte à la fois le paramétrage de l'ellipsoïde du projet et les unités de distance. Par exemple, si un ellipsoïde a été paramétré pour le projet alors la surface sera ellipsoïdale, sinon, elle sera calculée selon un plan.

Syntaxe

Sarea

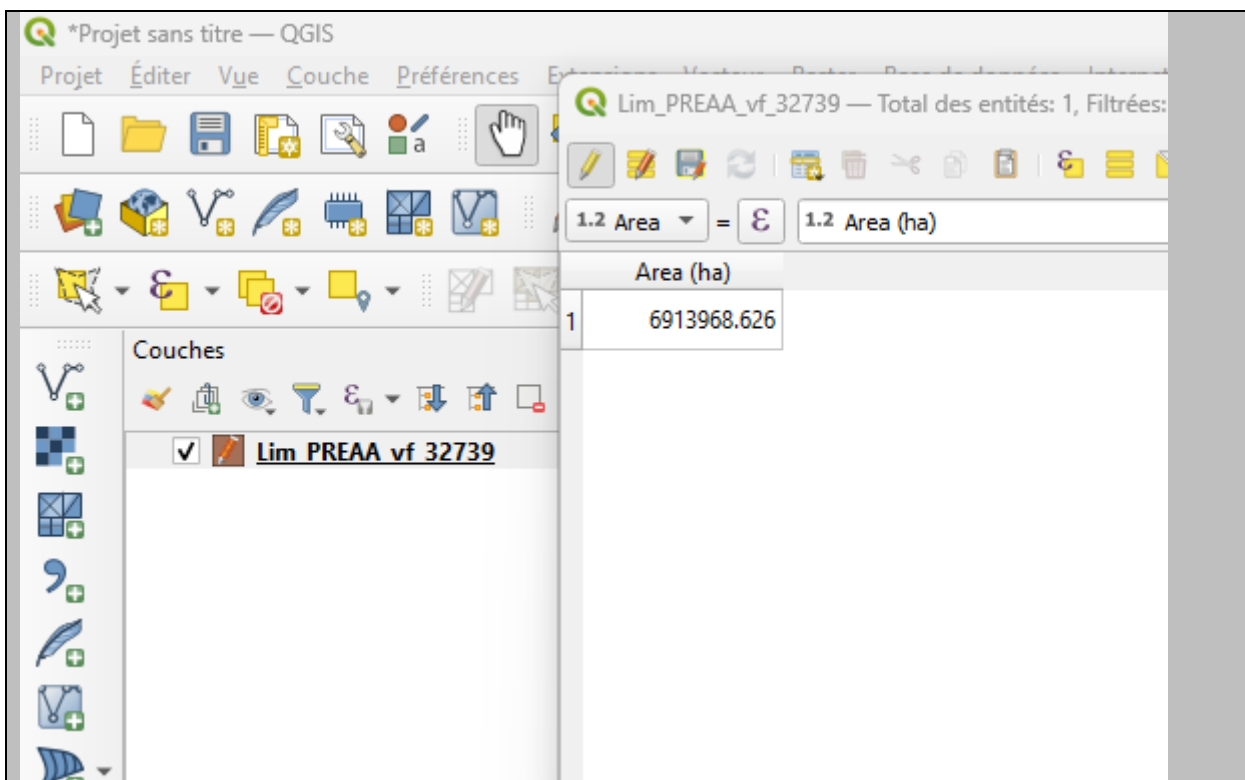
Exemples

- Sarea -- 42

OK Annuler Appliquer Aide

- Montrer toutes les entités
- Once the function is selected, click OK, and the resulting area will be: 6,913,968.626 ha.

Figure: Result of the calculation



Secondly, concerning the calculations linked to the Emission Reductions:

The areas shown in cells O11 to R11 of the defor_stat_lu_2021_2022_v3 file ([link : https://docs.google.com/spreadsheets/d/1R5NVa293zpmfpJvrNUbTnkF6s7Zp-De0/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true](https://docs.google.com/spreadsheets/d/1R5NVa293zpmfpJvrNUbTnkF6s7Zp-De0/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true)) are total areas per stratum for the two years, whereas the calculation uses the annual area (ha/year), which is why these figures do not appear in the calculation. That is, O11/2 (see DA sheet of MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10 file ([link : https://docs.google.com/spreadsheets/d/1VipfbofkqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true](https://docs.google.com/spreadsheets/d/1VipfbofkqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true)), line 44 and the interrelationship in column C of the Niveau de référence and Suivi sheet, which will explain the changes in findings 32).

Auditor Response 5:

Thank you for your thorough explanation. The audit team was able to confirm the new values in the calculation workbook v10.

However, we are still missing some data sources regarding the estimation and updating of reference zones. Could you please provide us with the data sources and steps used to obtain the estimates in the file "MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10.xlsx", sheet "DA", cells A3:N3 to A16:J16, similar to "defor_stat_lu_2021_2022_v3.xls" and the corresponding R files and inputs used (e.g., Spatial.R) and their calculation sources, but the one derived for the reference level.

Please indicate if there have been any updates to the R codes and inputs and outputs used in the calculation, and share them accordingly, e.g., `calcul_defor_gain_for_export_2021_2022.R`, `suivi_2021_2022.R`, `calcul_defor_gain_for_export_2021_2022.R`, etc.

Program Personnel Response6:

Link to the response file (zip):
https://drive.google.com/file/d/1P06e3_KsTz9DXgJPux1Fn1sqzUv2n9RU/view?usp=sharing

This zip file contains all the data used to estimate activity data for the ERPAA Program baseline: data sources (input) and results (output) using the R script in the folder.

To help understand the content, here is a short description and a table of files: file name, path to the file, and its use. The step in which each file comes into play is also mentioned in the table.

Summary :

Based on the processing in the R software (see R file in the AD REL folder, (link: https://drive.google.com/file/d/1P06e3_KsTz9DXgJPux1Fn1sqzUv2n9RU/view?usp=sharing), we obtained the matrices of deforestation, gain, and degradation as output (see output in the AD REL folder of this link https://drive.google.com/file/d/1P06e3_KsTz9DXgJPux1Fn1sqzUv2n9RU/view?usp=sharing).

The data or figures on relative frequencies and standard error in these matrices were used to fill in the cells highlighted in orange in the file `MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10.xlsx`

file, "DA" sheet (link: <https://docs.google.com/spreadsheets/d/1VipfbofkqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true>), lines 6 and 8. The relative frequency values were used to fill in line 6 on the stratified estimates, while the standard error values were used to fill in line 8.

The values appearing in lines 10 to 16 of this file `MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10.xlsx`, sheet "DA" followed formulas (please click in the cells to see the formulas) and appear automatically.

The matrices obtained after processing on R are classified by REDD+ activities (deforestation, gain, degradation, etc.) (see output, in the AD REL folder, link: https://drive.google.com/file/d/1P06e3_KsTz9DXgJPux1Fn1sqzUv2n9RU/view?usp=sharing) and the relative frequency and standard error values follow the different strata (FHI, FHD, FS, AF, PL, etc.) in analogy with Forêt dense humide, Forêt humide dégradée, Forêt secondaire, Agroforesterie, Plantation

described in line 5 of the file `MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10.xlsx`, sheet "DA", link: <https://docs.google.com/spreadsheets/d/1VipfbofkqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true>).

Regarding the file `defor_stat_lu_2021_2022_v3.xls`, (link: https://docs.google.com/spreadsheets/d/1R5NVA293zpmfJvrNUbTnkF6s7Zp-De0/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true), which is an output on deforestation by stratum for the monitoring case for the period 2021-2022. The data in columns B to L appear after processing on R, then the stratified estimate and standard error are calculated manually in columns O to R, incorporating the weight `Wh` (column L) into the calculation (please click on the cells in columns O to R to see the formulas). These values will then be used in the file `MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10.xlsx`, sheet "DA", link:

<https://docs.google.com/spreadsheets/d/1VipfbofkqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true>), « SUIVI » section, starting from line 32, specifically lines 35 and 37.

The steps are:

- Launching R: Step 1;
- Inserting inputs: Step 2;
- Obtaining results: on the matrices (Step 3) and consolidated activity data (Step 4)

Auditor Response6:

The auditors confirmed the evidence provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 6 - Dated 12 Mar 2025 – CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx;
Monitoring_stratification_2021_2022.R

Finding: Criterion 14 of the Methodological Framework

I Framework states “Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area.”

And, Indicator 14.1 states “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level.”

Section 3.2 of the monitoring report describes how the parameter ‘ $A'(j,i), A'(i,j)$ ’ is monitored and assessed. Stratification is an important component, as mentioned in section 3.2 by the monitoring report:

“Stratification: A forest cover change map was created as stratification criteria. The initial target stratum was stable forest, stable non forest, forest loss, forest gain and a buffer around areas prone to errors (deforestation, gain, forest edges). Upon running the process, there were no gain identified so that was removed from the land use class, Also, errors can be minimized by post-stratifying the buffer into two depths : buffer from 50m from forest edge and a second buffer from 50m to 100m from forest edge. Water was part of the land use classification but not included in the stratum since no sampling points will be set in the water. More information on the methods for production of the maps is provided in SOP0.”

The R script ‘Monitoring_stratification_2021_2022.R’ seems well written, but the audit team could not assess the script, as we did not have all inputs available to us. Please provide all input datasets required to run this script.

Project Personnel Response:

The script 'Monitoring_stratification_2021_2022.R' and its inputs and outputs are located in a zip file that can be downloaded with the link: https://drive.google.com/file/d/16bkRMynvu5wzZm_IS4IzY-5yUJP8mnSB/view?usp=sharing

Auditor Response:

Thank you for the additional materials. However, the inputs 'tuile39LUD_date1_Dec_Mai2021_L1C.tif' and 'tuile39LUD_date2_Dec_Mai2023.tif' were not available in the inputs folder corresponding to the provided R script, so this check could not be completed. This finding remains open.

Project Personnel Response2:

To download 39LUD (as input of script), see the links respectively for 'tuile39LUD_date1_Dec_Mai2021_L1C.tif' and 'tuile39LUD_date2_Dec_Mai2023.tif': ["https://drive.google.com/file/d/1nVrV1-ICa_GWi8TngFXhBP75159Cf8yJ/view?usp=sharing"](https://drive.google.com/file/d/1nVrV1-ICa_GWi8TngFXhBP75159Cf8yJ/view?usp=sharing)

" and ["https://drive.google.com/file/d/13QjYfzQnJH7K2mF7GjzpYdkMQ7-N1OxH/view?usp=sharing"](https://drive.google.com/file/d/13QjYfzQnJH7K2mF7GjzpYdkMQ7-N1OxH/view?usp=sharing)

For all classification datas (including scripts, inputs, output details ...°, see : https://drive.google.com/file/d/16bkRMynvu5wzZm_IS4IzY-5yUJP8mnSB/view?usp=sharing

Auditor Response2:

Thank you for the additional materials. The auditor was able to run the example script. No further questions about the script. As one final request: please provide the audit team with the particular error and confusion matrix workbooks that were outputted by this script ('erreur_v6.xlsx' and 'matrice_confusion_v6.xlsx').

This finding remains open.

Project Personnel Response3:

The following link contains the files containing the error and confusion matrices_v6 : https://drive.google.com/file/d/1b6x2SrEeVH1f5olqpH-C_h_VWCrcIBi_/view?usp=sharing

Auditor Response3:

Thank you for the updated workbooks. The audit team's confusion matrix and outputted error metrics line up closely with the project's confusion matrix and error metrics. Small differences in errors are attributed to the audit team using a different set of random spatial samples for training and testing the random forest model that is set up in the project's R script. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 7 - Dated 12 Mar 2025 – CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November_2024.docx;
Monitoring_stratification_2021_2022.R

Finding: Criterion 14 of the Methodological Framework states "Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and

verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area.”

And, Indicator 14.1 states “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level.”

Section 3.2 of the monitoring report describes how the parameter ‘ $A'(j,i)$, $A'(i,j)$ ’ is monitored and assessed. Stratification is an important component, as mentioned in section 3.2 by the monitoring report:

“Stratification: A forest cover change map was created as stratification criteria. The initial target stratum was stable forest, stable non forest, forest loss, forest gain and a buffer around areas prone to errors (deforestation, gain, forest edges). Upon running the process, there were no gain identified so that was removed from the land use class. Also, errors can be minimized by post-stratifying the buffer into two depths : buffer from 50m from forest edge and a second buffer from 50m to 100m from forest edge. Water was part of the land use classification but not included in the stratum since no sampling points will be set in the water. More information on the methods for production of the maps is provided in SOP0.”

The R script ‘Monitoring_stratification_2021_2022.R’ seems well written, but the audit team could not assess the script, as we did not have the output ‘classif_final_38kreSS90_V9_tree20210.tif’ available for our assessment. Please provide the output of this R script.

Project Personnel Response:

The script ‘Monitoring_stratification_2021_2022.R’ and its inputs and outputs are located in a zip file that can be downloaded with the link: https://drive.google.com/file/d/16bkRMynvu5wzZm_IS4IzY-5yUJP8mnSB/view?usp=sharing

Auditor Response:

Thank you for the additional materials. However, the inputs ‘tuile39LUD_date1_Dec_Mai2021_L1C.tif’ and ‘tuile39LUD_date2_Dec_Mai2023.tif’ were not available in the inputs folder corresponding to the provided R script, so this check could not be completed. This finding remains open.

Project Personnel Response2:

To download 39LUD (as input of script), see the links respectively for ‘tuile39LUD_date1_Dec_Mai2021_L1C.tif’ and ‘tuile39LUD_date2_Dec_Mai2023.tif’: [“https://drive.google.com/file/d/1nVrV1-ICa_GWi8TnqFXhBP75159Cf8yJ/view?usp=sharing](https://drive.google.com/file/d/1nVrV1-ICa_GWi8TnqFXhBP75159Cf8yJ/view?usp=sharing)

” and [“https://drive.google.com/file/d/13QjYfzQnJH7K2mF7GjzpYdkMQ7-N1OxH/view?usp=sharing”](https://drive.google.com/file/d/13QjYfzQnJH7K2mF7GjzpYdkMQ7-N1OxH/view?usp=sharing)

For all classification datas (including scripts, inputs, output details ...”, see : https://drive.google.com/file/d/16bkRMynvu5wzZm_IS4IzY-5yUJP8mnSB/view?usp=sharing

Auditor Response2:

Thank you for the additional materials. The auditor was able to run the example script. No further questions about the script.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 8 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November_2024.docx;
MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx

Finding: Criterion 14 of the Methodological Framework states “Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area.”

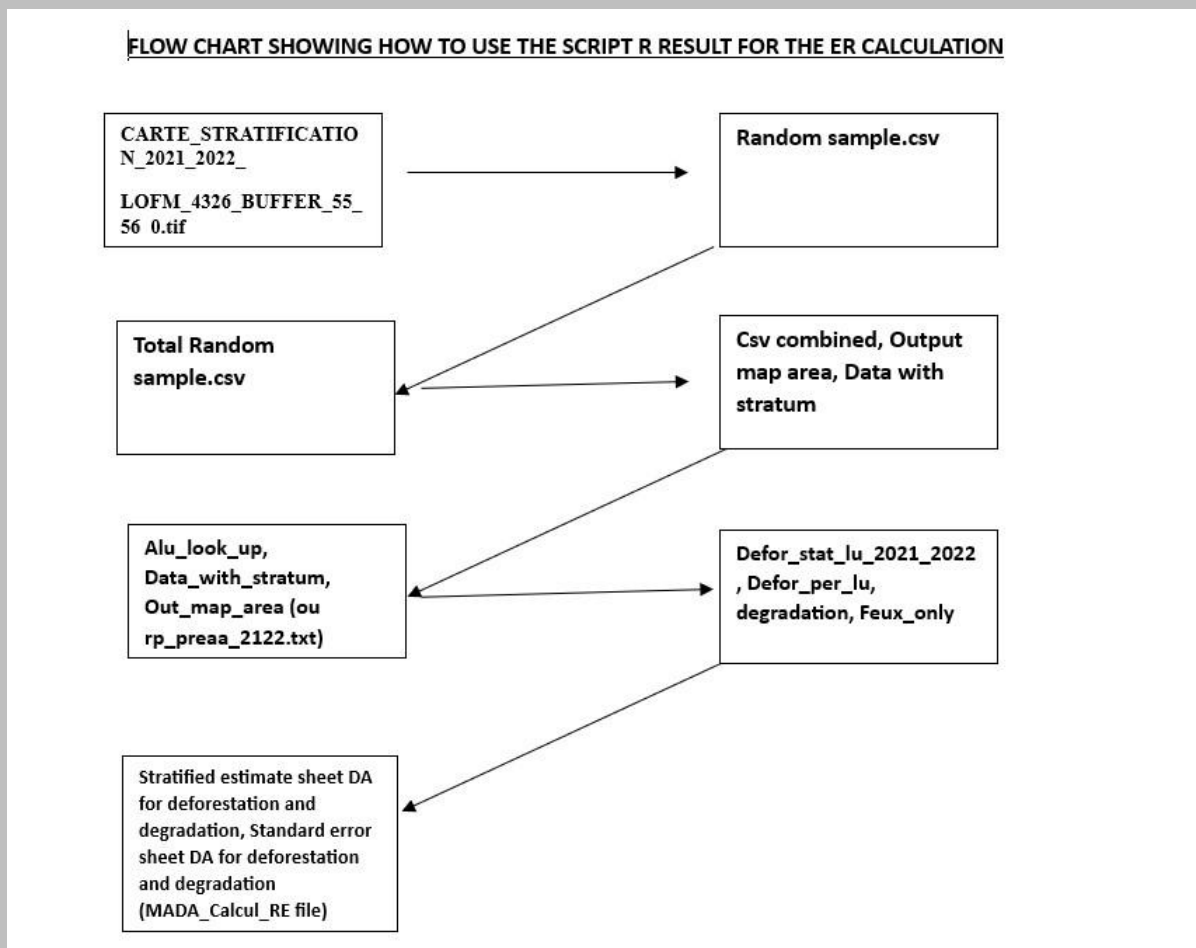
And, Criterion 14.1 states: “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level”

Section 3.2 of the monitoring report describes how the parameter ‘ $A'(j,i)$, $A'(i,j)$ ’ is monitored and assessed.

The project uses multiple R scripts to run calculations related to the parameter ‘ $A'(j,i)$, $A'(i,j)$ ’, and the outputs of these scripts feed into ER calculations. For the sake of efficiency, please provide the audit team with a flow chart that shows how the outputs of each R script are used or fed into a final ER calculation.

Project Personnel Response:

Here is the flow chart that explains how the outputs of each R script are used or fed into the final ER calculation:



Auditor Response:

Thank you for the additional chart. The audit team has a follow-up question:

The audit team reviewed the outputs of the R script ‘suivi_2021_2022.R’ (i.e., defor_per_lu.csv, defor_stat_lu_2021_2022.csv, degradation.csv, feux_only.csv), and the standard errors from these outputs do not correspond to values in Row 37 of sheet ‘DA’ in ‘MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx’. The audit team could not establish a connection between R outputs and the workbooks, so this finding remains open.

Project Personnel Response2:

The calculation results presented in these two files come from two distinct sampling methods: stratified random sampling (which is the ‘defor_strat_lu_2021_2022.csv’ file) and a simple random sampling (the ‘defor_per_lu.csv’ file).

The standard errors presented in the file ‘MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx’ were calculated from the stratified random sampling coming from the file ‘defor_stat_lu_2021_2022.csv’ (link to this file : https://drive.google.com/file/d/1BB_ZKZ-GEzmcN8Skyez37SorbPu653oW/view?usp=sharing and then: “estimates/output” is the path).

We can note that the variable of interest in our analysis is deforestation.

Auditor Response2:

Thank you for the explanation. The workbook 'deforestation_2021-2022.xlsx' in folder 'estimation_DA_suivi_2021-2022' answered this nicely. The audit team has established a connection between the R outputs and workbooks.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 9 - Dated 12 Mar 2025 – CLOSED

Standard Reference: FCPF Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 3.1 of the FCPF Methodological Framework (MF) states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy. The auditors found the following non conformities:

Section 2.1 of the ER-MR2, parameter GHG data and Information states “*Section 1.1 states “the REDD+ decree was adopted by the Government Council, stipulating all implementation frameworks and the applicable financial mechanism: (<https://www.environnement.mg/?wpdmpo=decret-relatif-a-la-regulation-de-laces-au-marche-de-carbone-forestier#>)”*. However, the link doesn’t take the reader to the decree, it points to the main page of Ministry of Environment.

Section 1.2 of the ER-MR2, Table 1 presents “*Results of LOFM studies (data collection on 2021 for MNV 1)*”, however, MNV has not been defined anywhere, nor is included in the list of acronyms.

Section 2.3.2 “Calculation”, parameter Rj & Ri show an error: “**Error! Reference source not found.**”.

Section 2.3.2 “Calculation”, has 2 equations titled “Equation 2” with different formulas and calculation parameters, one for “Monitored emissions” and one for “Deforestation”

The ER-MR2 has no page numbers.

The acronym “MNV” appears in various sections of the ER-MR2 and has not been previously defined in the list of Acronyms (e.g. Section 1.2, Table 1).

Project Personnel Response:

The link to the updated REDD+ decree on the website of the Ministry in charge of forests is :

https://www.environnement.mg/wp-content/uploads/2024/07/1.DECRET_DRMCF_2021_1113.pdf

*The second “equation 2” is already included in the first equation 2 explaining the Changes in carbon stocks in biomass from REDD+ activity i in year t; tCO₂e/ year. So, we have deleted the second “equation 2” in the 2.3.2 section. *MNV means MRV (clarification added in the table of Acronyms for ‘MNV’)

*Number of page is added too

Auditor Response:

The audit team confirmed the changes provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 10 - Dated 12 Mar 2025 – CLOSED**Standard Reference:** FCPF Methodological Framework v3**Document Reference:** ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx**Finding:** Criterion 14 of the Methodological Framework states “*Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area.*”

Section 1.2, Table 1 of the ER-MR2 states “*For the monitoring year 2020, it seems that the districts are more deforested when their forests are poorly accessible. The general low accessibility of forests can in fact concentrate pressure (harvesting activities, slash-and-burn cultivation, etc.) on the few more accessible forest areas*”. The updates presented for 2020 not in conformance with the program requirements as they are outside of the scope of this reporting period (2021-2022).

Project Personnel Response:

This information is included just for information and reference to compare against MR1, it can be kept.

A short explanation about this has been added to the ER-MR report, in the SECTION 1.2.

Auditor Response:

The audit team confirmed the response provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 11 Dated 12 Mar 2025 – CLOSED**Standard Reference:** ER-MR template**Document Reference:** ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx**Finding:** Section 1.3 of the ER-MR template requires “Please describe and justify any methodological deviations identified during the current Reporting Period and provide details of the corrections and their impact on the estimation of the RL and ERs”.

Section 1.3 of the ER-MR states “*Some errors were found in the validated Reference Level when preparing the second monitoring report.*”. It is mentioned that “*These errors pertain to the incorrect integration of emission factors*”. However, section 1.3 of the ER-MR does not describe and explain in detail the nature of the errors and hence is not in conformance with the program requirements.

Project Personnel Response:

This is due to an error in copying the above ground biomass values for secondary forests, agroforestry and plantations from the biomass sheet to the reference level calculation sheet (when the first monitoring report was drawn up). Secondary forest: copied value 46.2 false instead of 91.1 true; agroforestry: copied value 35.5 false instead of 87.9 true; plantation: copied value 91.1 false instead of 29.6 true. The second error concerns the copying of the plantation's Root to shoot ratio value from the biomass sheet to the reference level calculation sheet: copied value 1.0 false instead of 3.24 true. This has an impact on the estimation of the reference level and the emission reduction.

This explanation is added in the section 1.3.

Auditor Response:

The audit team confirmed the changes provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 12 - Dated 12 Mar 2025 – CLOSED**Standard Reference:** FCPF Methodological Framework v3**Document Reference:** ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 3.1 of the FCPF Methodological Framework (MF) states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy. The audit team found the following non conformities in Section 2.1:

Section 2.1, parameter Organizational structure, responsibilities, skills of the ER-MR states “*The work carried out at LOFM follows well-defined standard procedures or Standard Operating Procedures (SOPs)*”, providing links to the SOPs. However, these links don’t direct the reader to any of the SOPs.

In this parameter, there is also a link included to the FCPF blank forms. Please explain the rationale to include these forms.

Section 2.1, table 2, parameter Process for collecting, processing, GHG data states “*As stated previously in the paragraph on the organizational structure, responsibilities, skills, the work carried out within the LOFM follows well-defined standards of Procedures or Standard Operating Procedures (POS), these are: providing the links to the SOPs*”, however, these links do not direct the reader to any of the SOPs either.

Explain the rationale to duplicate the links provided to the SOPs in the ER-MR over multiple sections, instead of referring to the reader to those sections.

Parameter Process for collecting, processing, GHG data states “Once the emission reductions have been calculated, they will be reported with all information provided in a transparent manner demonstrating that the principles outlined in Section 9.1 have been followed”. The auditors found there is no section 9.1 on the ER-MR. Please explain what this is referring to.

Parameter Process for collecting, processing, GHG data, presents another set of links that do not guide to the referred data: “*These numbers should be small enough to use the map (<https://www.environnement.mg/?wpdmpro=standard-doperation-pour-la-stratification#>)*”, “*For quality control, 5% of the added samples of all change classes and those with low confidence are reanalyzed by the group (<https://www.environnement.mg/?wpdmpro=standard-doperation-pour-la-collecte-des-donnees#>)*”, “*Estimates are further cross-checked and compared to estimates reported by other sources (e.g. Global Forest Resources Assessment, National Greenhouse Gas Inventory, UNFCCC reports, Global Forest Watch ...) (<https://www.environnement.mg/?wpdmpro=standard-doperation-pour-lanalyse-des-donnees#>)*”, “*The forest inventory guidelines are available on REDD+ website (<https://www.environnement.mg/?wpdmpro=guide-dinventaire-forestiers#>)*).

Project Personnel Response:

- The Project team has ensured the links to the SOPs are not wrong. The reason why these links are repeated is to remind the links for finding the documents to the viewers.
- The link to the FCPF forms leads to filled forms, not blank ones
- The link to paragraph 9.1 of the first period report has been added to the report, for paragraph 2.1. The link to the forest inventory guideline has also been updated (https://www.environnement.mg/wp-content/uploads/2024/07/9.Manuel_inventaire_forestier.pdf) and https://www.environnement.mg/wp-content/uploads/2024/07/Proposition_techinique_Inventaire_Foret_Humide_Est_Seché_Ouest_18.06.2020_Finale_pour_Contrat.pdf

Auditor Response:

The audit team confirmed the changes provided in section 2.1 of the ER-MR.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 13 - Dated 12 Mar 2025 – CLOSED

Standard Reference: ER-MR template

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 2.1 of the ER-MR template requires to “Describe the Forest Monitoring System including: ... Systems and processes that ensure the accuracy of the data and information”.

Section 2.1 of the ER-MR states “The system and processes that support the Forest Monitoring System are in place: Satellite Land Monitoring System, MRV”, however there is no further description about them in this section. This is not in conformance with the requirements

Project Personnel Response:

The paragraph: Satellite Land Monitoring System, MRV are removed from SECTION 2.1 to avoid confusion, however all related information is in the same Section above.

Auditor Response:

The audit team confirmed the changes provided in the ER-MR.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 14 - Dated 12 Mar 2025 – CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 3.1 of the FCPF Methodological Framework (MF) states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.” Section 2.1 of the ER-MR, parameter GHG data and Information states “The data is stored and published on the MEDD website <https://www.environnement.mg>

In this link are available the following documents :

- *Legal documents (title transfer and access to the Carbone revenue)*
- *Safeguards documents*
- *MRV documents*
- *Land use map and processes*
- *Activity data and map)*”,

However, this link does not direct the reader to any of this information. This is not in conformance with the requirements.

Project Personnel Response:

Here is a link to these documents: <https://www.environnement.mg/organisme-rattache/bnc-redd/>

Otherwise, MRV Documents can be seen in this link above, but map; activity datas and processes specific to the monitoring 2021-2022 are seen in other links that can be found in the updated document: “Guide des fichiers”) and the second ER-MR so as to be available to the public.

Auditor Response:

The audit team confirmed the changes provided in the ER-MR.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 15 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 3.2 of the FCPF MF states “ER Programs should, by using conservative assumptions and quantitative assessment of uncertainties, be incentivized to reduce uncertainties associated with all aspects of accounting, inter alia, reference levels, monitoring, and reporting”,

Section 2.3.2 of the ER-MR, calculation of Enhancement of carbon stocks in new forests, parameter “Years growth”, states that the “Number of years to transit from Non-forest to forest. The value used is: 15 years is assumed as the secondary forest is assumed to have 20 years in average and the savouka jeune or non-forest represents a secondary vegetation of 5 years in average”. Please provide the evidence that demonstrates this is a conservative assumption.

Project Personnel Response:

The documents that justify them are in the following links:

<https://www.lesechos.fr/idees-debats/sciences-prospective/climat-les-forets-tropicales-se-regenerent-plus-rapidement-quoi-ne-le-croit-1383049> (to justify the value of 20 years)

https://drive.google.com/file/d/1nrwJ2spJMVX67BTaxm1nvjmCzR39nVkw/view?usp=drive_link

(to justify the value of 5 years)

https://drive.google.com/file/d/1-ETtUwq-ZbMbw7n9wx6UzfIHdrvsj_E/view?usp=drive_link

(to justify the value of 5 years to 20 years and more than 20 years)

Auditor Response:

The audit team confirmed the evidence provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 16 - Dated 12 Mar 2025 – CLOSED

Standard Reference: FCPF ER-MR template

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 4.1 of the ER-MR template requires “Please provide the Reference Level for the ER Program for the Reporting Period covered in this report... If there are differences, explain these differences and whether Technical Corrections have been applied.”.

Section 4.1 of the ER-MR states “As explained in section 1.3 the reference level was updated after some non-material errors were corrected” and does not explain the differences in the new RL estimates provided in this reporting period. This is not in conformance with the program requirements.

Project Personnel Response:

After the correction, the reference level for 2020 becomes 11,884,044 instead of the 11,849,654 presented in the 2020 report. There was therefore an underestimate of 34.390 for the RL presented in the 2020 report. In the section 1.3 of the report, there is a table that justify this.

Auditor Response:

The audit team confirmed that the ER-MR now provides and explanation of the differences of the new RL estimates in section 1.3.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 17 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Criterion 6 of the FCPF MF requires “Key data and methods that are sufficiently detailed to enable the reconstruction of the Reference Level, and the reported emissions and removals (e.g., data, methods and assumptions), are documented and made publicly available online.”

Section 3.1 of the ER-MR states that “A wood density database compiled by Vielliedent et al. (2012) for research related to allometric equations, the global wood density database compiled by Zanne et al. 2009, and the PERR-FH wood density database compiled by the PERR-FH project for the purpose of the PERR-FH inventory”. The audit team could not find these data sources, please provide a copy of the cited peer-reviewed literature and their databases.

Project Personnel Response:

The allometric equation used to calculate above-ground biomass is as follows:

$$AGBest = \text{EXP}(-1.103 + 1.994 * \text{LnDHP} + 0.317 * \text{Ln Hest} + 1.303 * \text{Ln } \rho)$$

With :

AGBest: estimated above-ground biomass, expressed in tonnes of dry matter (tms)

ρ : wood infra density (t/m³)

DBH: Diameter at Breast Height (DBH) (cm)

Hest: Estimated total tree height (m)

To determine ρ , we have used the different approaches shown in the figure below, depending on whether they are available at species, genus or family level. PERR-FH is included in Vielliedent et al, 2012 :

```

    graph TD
      subgraph Espèce
        A[Vielledent et al. 2012] -- Non --> B[Zanne et al. 2009]
        B -- Non --> C[PERR-FH]
      end
      subgraph Genre_moyenne [Genre (moyenne)]
        D["Vielledent et al. 2012  
(Espèce(s) du même genre)"] -- Non --> E[Zanne et al. 2009]
        E -- Non --> F["Zanne et al. 2009  
Afrique"]
        F -- Non --> G[Zanne et al. 2009 global]
      end
      subgraph Famille_moyenne [Famille (moyenne)]
        H["Zanne et al. 2009  
Madagascar"] -- Non --> I["Zanne et al. 2009  
Afrique"]
        I -- Non --> J[Zanne et al. 2009 global]
      end
      K[Valeur par défaut]
      
      C -- Non --> D
      G -- Non --> H
      J -- Non --> K
  
```

Link wood density Vielledent et al, 2012 :
https://drive.google.com/file/d/11MIPxVVKlqnjaHGkKWwc2OjVFC4UwpD5/view?usp=drive_link

Link wood density Zanne et al, 2009 :
<https://datadryad.org/stash/dataset/doi:10.5061/dryad.234>

And if the botanical genus is still not listed, take the average value of 0.58 g.cm-3.

Auditor Response:
 The audit team confirmed the response provided.
 This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 18 Dated - 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.

Section 3.1 of the ER-MR states “Les stocks de C à volume équivalent ont été principalement utilisés pour la cartographie et la modélisation du carbone du sol. ”. This sentence is in french as is not in consistency with the rest of the document language, and hence not in conformance with the principle of consistency.

Project Personnel Response:

This sentence is replaced by “Volume-equivalent C stocks have been used mainly for soil carbon mapping and modelling”

Auditor Response:

The audit team confirmed that the sentence is now in a consistent language.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 19 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Guidance Note Accounting of Legacy Emissions and Removals

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: The FCPF Guidance note on accounting legacy emissions/removals Section 1, point 4 states “*In the IPCC guidelines, after a change in land use, it is good practice to assume is that the carbons stocks in the relevant area change from one steady value (associated with the land use before the land use change) to another steady value (associated with the land use after the land use change) over a period of at least 20 years with the emissions and removals being spread over the whole transition period. This means that in a particular year, GHG emission and removals associated with land use are not just the result of the land use changes occurring in that year but also of emission and removals resulting from land use changes that occurred in previous years (for the purpose of this guidance we will refer to these emissions and removals resulting from land use changes in previous years as “legacy emissions/removals”).*”

The audit team couldn’t verify how the program team is accounting for legacy emissions in deforestation due to SOC. Please provide detailed information on how this was accounted for.

Project Personnel Response:

In accordance with the FCPF Guidelines and Glossary, the guidance notes are not considered mandatory for FCPF programs. As such, RE programs can voluntarily decide whether or not to use them. In the case of Madagascar, this guidance note was not used. Furthermore, the guidance note only applies to SOC changes during the reference level. The reference level for Madagascar has already been validated. However, the Madagascar MRV

team would like to emphasize that a 20-years transition period was considered for the estimation of SOC emissions. The Madagascar MNV team is reviewing the calculation of emissions in relation to this parameter.

Auditor Response:

The audit team confirmed that the program team did not follow the legacy emissions assessment approach stated in the Guidance note, as is not considered mandatory. A new finding has been issued, see finding MCAR 30.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 20 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Criterion 14 of the Methodological Framework states “Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area.”

Section 3.1 of the ER-MR template requires “Please provide an overview of all data and parameters that remain fixed throughout the Crediting Period”. However, in Section 3.1 of the ER-MR, the audit team could not find the data and parameters of the Non-CO2 emission factors and other fixed parameters that are considered in Section 5.2. Please clarify the rationale to not include them here.

Project Personnel Response:

According to the monitoring report instructions, Section 3 should not include default values estimated by the IPCC. Therefore, all default values, including non-CO2 emission factors and other IPCC fixed parameters, are found in Section 2.3.2 of the report. This is to comply with the model instructions.

Auditor Response:

The audit team confirmed the response provided. However, we still have the following observations:

- The audit team couldn’t confirm where are the DW and Litter emission factors (EF) provided in Section 3.1, page 70 “Estimates of dead wood per forest type” These EF do not coincide with the EFs used in the ER calculation workbook, sheet “Bois Mort”, Cells C4 to C7

Forest type	DW (tdm/ha)	Classe	BM (tdm/ha)
Dense humid forest	0.08	Forêt primaire	12.93
Degraded humid forest	0.09	Forêt perturbée	12.13
		Forêt secondaire	10.61
Secondary forest	0.06	Agroforesterie	10.88

- The fixed parameter used for Agroforesterie was not included
- The fixed parameter used for Litter has not been provided

This finding remains open.

Project Personnel Response2:

The emission factors (EF) for deadwood and litter provided in section 3.1, page 70 “Estimates of deadwood by forest type” do not coincide with the EFs used in the ER calculation workbook, sheet “Deadwood”, cells C4 to C7. The emission factors for dead wood and litter from the 2014 inventory were used in the calculation sheets, and it is now in accordance with the datas in the report (corrections made after revising the report). The final table seen in Section 3.1, page 70 is (Agroforestry, litter included):

Forest type	DW (tdm/ha)	Litter (tC/ha)
Dense humid forest	12.93	2.1
Degraded humid forest	12.13	
Secondary forest	10.61	
Agroforestry	10.88	

Auditor Response2:

The audit team confirmed the changes provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 21 - Dated 12 Mar 2025 – CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 3.1 of the FCPF MF states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.” The audit team found the following inconsistencies:

Section 2.3.2 “Calculation”, shows “Biomasse Madagascar :

https://docs.google.com/spreadsheets/d/1vSxK577AX1WNDap0K8CbYtCGgoDT6OIV/edit?usp=drive_link&oid=112106790342798073832&rtpof=true&sd=true”, however the link leads to a corrupted file and does not show the data.

Section 3.1 states “ More information is provided in the spreadsheet

“MADA_Biomasse_aerienne_et_Morte_20220410_v01 which may be found in the link”, however the link leads to a corrupted file and does not show the data

Project Personnel Response:

Most links in the report will be updated via the link of the Ministry in charge of Forests (MEDD). The link to the inventory data is as follows:

https://www.environnement.mg/wp-content/uploads/2024/07/MADA_Biomasse_aerienne_et_Morte_20220410_v01.xlsx

Auditor Response:

The audit team confirmed that the link to the file has been updated accordingly.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 22 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF ER-MR template

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 2.3 of the ER-MR template states *“Provide a systematic and step-by-step description of the measurement and monitoring approach applied for establishment of the Reference Level and estimating Emissions and Emissions reductions during the Monitoring / Reporting Period for estimating the emissions and removals from the Sources/Sinks, Carbon Pools and greenhouse gases selected in the ER-PD”*.

Section 2.3 of the ER-MR does not provide a **step-by-step description** of the measurement and monitoring approach, and is not in conformance with the program requirements.

Project Personnel Response:

A clear and detailed explanation of the measurement and monitoring process applied is added in SECTION 2.3 (please, see the section corrected in the ER-MR report 2021-2022).

Auditor Response:

The audit team confirmed that the changes provided to section 2.3.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 23 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 3.1 of the FCPF Methodological Framework states that *“the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy”*.

Section Section 4.2 Presents the SOP links again ‘The work carried out at LOFM follows well-defined standard procedures or Standard Operating Procedures (SOPs), that don’t lead the reader to the SOP. Please explain the rationale to provide the links again, instead of referring the reader to section 2.1 to access them. Also, explain the rationale to include a link to the blank FCPF SOP forms.

Section 4.2 also provides a link to the biomass data “The values of biomass, Stdev, Sample number, SE, Relative error, etc have been updated according to the results of the last forest inventory (here, it is the 2020 inventory) (cf link :

https://docs.google.com/spreadsheets/d/1vSxK577AX1WNDap0K8CbYtCGgoDT6OIV/edit?usp=drive_link&ouid

[=112106790342798073832&rtpof=true&sd=true">=112106790342798073832&rtpof=true&sd=true](#)". Please explain the rationale to include this link multiple times in the ER-MR, instead of referring the reader to a single link provided once.

Project Personnel Response:

- The link to the FCPF forms leads to filled forms, not blank ones
- The monitoring report instructions do not prohibit placing a link multiple times in order to clarify the source of the parameters and the procedures used to estimate them. Therefore, the team considers it okay to place links multiple times. However, the team will ensure that these links function properly.

Auditor Response:

Thank you for the explanation provided. The audit confirmed the underlying rationale.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 24 - Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November 2024.docx

Finding: Section 3.1 of the Methodological Framework states that "the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy". Section 5.2 states "The forest inventory guidelines are available on REDD+ website (<https://www.environnement.mg/?wpdmpro=guide-dinventaire-forestiers#>)", however, the link provided does not guide to the reader to the forest inventory guidelines and is not in consistency with the transparency principle.

Project Personnel Response:

This link has been updated by the link of the Ministry in charge of forests:

[https://www.environnement.mg/wp-content/uploads/2024/07/9.Manuel inventaire forestier.pdf](https://www.environnement.mg/wp-content/uploads/2024/07/9.Manuel_inventaire_forestier.pdf) and
[https://www.environnement.mg/wp-content/uploads/2024/07/Proposition technique Inventaire Foret Humide Est Seche Ouest 18.06.2020 Fin
 ale pour Contrat.pdf](https://www.environnement.mg/wp-content/uploads/2024/07/Proposition_techinique_Inventaire_Foret_Humide_Est_Seche_Ouest_18.06.2020_Finale_pour_Contrat.pdf)

Auditor Response:

The audit team confirmed the changes provided to the ER-MR.

This finding is closed

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 25 - Dated 12 Mar 2025 – CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November_2024.docx;
MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1

Finding: Criterion 14 of the Methodological Framework states “Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3: within the proposed Accounting Area.”

In file MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1, sheet “Input data and Results”, Column D “Valeur”, the audit team could not verify the GWP of CH₄ = 21, as stated in the ER-MR, section 2.3.2, equation 7: “Global Warming Potential of CH₄ = 28”, and hence this is not in conformance with the requirements.

Project Personnel Response:

The GWP parameter values for CH₄ and N₂O in column D of the “MADA_Analyse_incertitude_20240618_V00_pour_rapport_ER_période_de_suivi_2021_2022_V6.1” file should be replaced by 28 for CH₄ and 265 for N₂O instead of 21 and 298. Fortunately, we can see that there has been no impact on the uncertainty calculation.

Auditor Response:

Thank you for your response. The audit team was able to verify the changes provided in Section 5.2 to parameter GWP (CH₄). However, the audit team could not verify the changes provided in the Uncertainty file of the updated link provided in Section 4.1, “Uncertainties and sensitivity analysis”, or the link provided in Section 5.2: Link Monte Carlo : https://www.environnement.mg/wp-content/uploads/2024/07/MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1-wecompress.com_.xlsx

This finding remains open

Project Personnel Response:

GWP values in the Uncertainty file have been updated and presented in the latest version 6.2 of the Uncertainty file. New related links have also been updated in sections 4.1 and 5.2 of the report. The link is : https://docs.google.com/spreadsheets/d/1SG02YonLJIHn4uRj_7xwsrt8kFXBSqrk/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

Auditor Response:

Thank you for your response. The audit team was able to verify the changes provided in the uncertainty calculation workbook.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 26 Dated 12 Mar 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_ERPA_Madagascar_2RP_November_2024.docx;
MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1

Finding: Criterion 14 of the Methodological Framework states “Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources

In file MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1, sheet “Input data and Results”, Column D “Valeur”, the audit team could not verify the GWP of N2O = 298, as stated in the ER-MR, section 2.3.2, equation 7: “Global Warming Potential of N2O = 265”, and hence this is not in conformance with the requirements.

Project Personnel Response:

The GWP parameter values for CH4 and N2O in column D of the “MADA_Analyse_incertainitude_20240618_V00_pour_rapport_ER_période_de_suivi_2021_2022_V6.1” file should be replaced by 28 for CH4 and 265 for N2O instead of 21 and 298. Fortunately, we can see that there has been no impact on the uncertainty calculation.

Auditor Response:

Thank you for your response. The audit team was able to verify the changes provided in Section 5.2 to parameter GWP (N2O). However, the audit team could not verify the changes provided in the Uncertainty file of the updated link provided in Section 4.1, “Uncertainties and sensitivity analysis”, or the link provided in Section 5.2: Link Monte Carlo : https://www.environnement.mg/wp-content/uploads/2024/07/MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1-wecompress.com_.xlsx

This finding remains open

Project Personnel Response:

GWP values in the Uncertainty file have been updated and presented in the latest version 6.2 of the Uncertainty file. Related links have also been updated in sections 4.1 and 5.2 of the report. The link is https://docs.google.com/spreadsheets/d/1SG02YonLJIHn4uRj_7xwrt8kFXBSqrk/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

Auditor Response:

Thank you for your response. The audit team was able to verify the changes provided in the uncertainty calculation workbook.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 27 - Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.”

In section 4.1 of the ER-MR, table 4, the audit team could not confirm the sums of the reported emissions, due to the differences in decimals. If you sum 11,477,239 + 11,477,239 = 22,954,478 vs 22,954,477 reported. Same case if you sum 11,477,239 + 420,060 -26,508 the total is not 11,870,790, but 11870,791. This is not in conformance with the principle of accuracy.

Project Personnel Response:

Table 4 updated after correcting errors and obtaining a new value due to the addition of parameter D in the calculation of SOC emissions. Also, the sum has been computed using the FCPF template for sections 4, 7 and 8 provided by the FMT to Madagascar. It is also publicly available on the FCPF website. The template solves the issue of decimals as they are not accepted in CATS. The adjustments are presented in the following link : https://docs.google.com/spreadsheets/d/1_bmApfYxFIs7WaZzYcGx4o3N_A6guqVr/edit?usp=drive_link&oid=114519974924085988913&rtopof=true&sd=true

Year of Monitoring /Reporting period t	Average annual historical emissions from deforestation over the Reference Period (tCO2-e/yr)	If applicable, average annual historical emissions from forest degradation over the Reference Period (tCO2-e/yr)	If applicable, average annual historical removals by sinks over the Reference Period (tCO2-e/yr)	Adjustment, if applicable (tCO2-e/yr)	Reference level (tCO2-e/yr)*
2021	10,913,887	420,060	-26,508		11,307,439
2022	10,913,887	420,060	-39,762		11,294,185
Total	21,827,774	840,120	-66,270		22,601,624

Auditor Response:

The audit team confirmed that the sum of the new numbers now match.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 28 - Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.”

Section 3.1 Parameter: $AGB_{Before,j}$ $AGB_{After,j}$ $AGB_{Before,j}$ $AGB_{After,j}$ – (For Forest) table Please explain why is there a grey square covering the Stratum and the Relative margin of error?

Stratum	AGB (tdm/ha)	
	202.63	7%
	186.00	11%
	91.11	30%

Section 3.1, dead Wood/litter stock has no parameter indicated just C_0

Parameter:	C_0
Description :	Dead wood/litter stock, under the old land-use category, tons C ha-1.

Please review and/or explain the former.

Project Personnel Response:

The filled boxes hid the texts. The table looks now as follows and is corrected in the report:

Stratum	AGB (tdm/ha)	Relative margin of error at 90% of confidence level
Dense humid forest	202.63	7%
Degraded humid forest	186.00	11%
Secondary forest	91.11	30%

The word “Old” has been added after C_o in the “parameter” line to indicate that this is the biomass of dead wood and litter before deforestation.

Parameter:	$C_{o(Old)}$
Description :	Dead wood/litter stock, under the old land-use category (before deforestation), tons C ha-1.
Data unit:	tC/ha

Auditor Response:

The audit team was able to verify the changes provided in the ER-MR.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 29 - Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx, MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.” Indicator 14.1 of the MF states “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level”

The audit team couldn’t not verify the value used for Root to Shoot ratio used in the calculations in file “MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx”, sheet “Niveau de Référence”, cell F13.

Looking at the first ER-MR available on the FCPF website, it is stated in page 154, that the root to shoot ratio used for plantations is 3.35 is the root shoot ratio of Eucalyptus plantations according to RAZAKAMANARIVO et al. (2013). However in the new ER-MR, it is reported that it is 3.24. In our due diligence, we found the cited literature (<http://ghislain.vieilledent.free.fr/Wordpress/wp-content/Razakamanarivo2012-BiomassAndBioenergy.pdf>), however, could not verify the value used.

Please indicate specifically where in the cited literature we can find the value used or explain the underlying rationale used to derive it.

Project Personnel Response:

The value interval of the plantation's RSR is obtained using the document by RAZAKAMANARIVO et al, 2011, section 4.2, page 9. On the other hand, the plantation RSR value 3.24 was taken from the ERPD Atiala Atsinanana document, tables 60 and 63. The reference RAZAKAMANARIVO et al, 2013 in the report has been replaced by RAZAKAMANARIVO et al, 2011 and ERPD Document Atiala Atsinanana, 2018. The links for these documents are : <http://ghislain.vieilledent.free.fr/Wordpress/wp-content/Razakamanarivo2012-BiomassAndBioenergy.pdf> and https://drive.google.com/file/d/1gzR9Kz8UYOJ-6PNbzOsjrilMohy1oCIA/view?usp=drive_link

Auditor Response:

Thank you for your response. The audit team was able to verify the evidenc provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 30 - Dated 14 May 2025

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx,
MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.” Indicator 14.1 of the MF states “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level”

Section 2.3.2 of the ER-MR, “Emission reduction Calculation”, states “In order to execute this operation of the process, the same IPCC methods and equations described in Chapter 8.3 (Annex 4) of the MR1 (cf table below) will be used to estimate GHG emissions in the monitoring period”, and indicates that to estimate Soil Organic Carbon (SOC) Equation 2.25 of the 2006 IPCC guidelines is used.

According to equation 2.25, SOC estimates include parameter D as follows:

<p>EQUATION 2.25 ANNUAL CHANGE IN ORGANIC CARBON STOCKS IN MINERAL SOILS</p> $\Delta C_{Mineral} = \frac{(SOC_0 - SOC_{(0-T)})}{D}$

“D = Time dependence of stock change factors which is the default time period for transition between equilibrium SOC values, yr. **Commonly 20 years**, but depends on assumptions made in computing the factors FLU, FMG and FI. If T exceeds D, use the value for T to obtain an annual rate of change over the inventory time period (0-T years).”

The audit team couldn’t confirm the inclusion of parameter D in the SOC estimates provided in file MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx, sheet **Niveau de Référence**. In assessing the methodology deviations and corrections implemented to the Validated Reference Level, the audit team couldn’t confirm the results presented on cells H27 to H30, nor why Column “D” (cells F27 to F30) has not been considered in the estimates, but is presented in the table. Please explain the rationale to skip the application of this column in the calculations, it is not clear why this transition period is not taken into account.

Project Personnel Response:

We forgot to include D in the formulas. D has been included in the calculation of the emission from the SOC, in the file MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v9, Reference Level sheet, Cell H27 to H30. The link is :
https://docs.google.com/spreadsheets/d/1pLS2bxt2AVbr6xiUazlGDeSfCPlyCCVj/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

This change has impacted the reference level, and the emission reductions estimated for the first and second reporting periods. This correction has been described in sections 1.3 of the monitoring report. The correction has also resulted in the deduction of wrongly estimated ERs for the 1st reporting period from the 2nd reporting

period as explained in section 4.3 of the Monitoring Report and as reflected in section 8 of the Monitoring Report.

Auditor Response:

The audit team confirmed that the changes provided to the calculations of the Reference Level estimates now include the division by parameter D in the SOC calculation.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 31 - Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx,
MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.” Moreover, Indicator 14.1 of the MF states “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level”

Section 2.3.2 of the ER-MR, “Emission reduction Calculation”, states “In order to execute this operation of the process, the same IPCC methods and equations described in Chapter 8.3 (Annex 4) of the MR1 (cf table below) will be used to estimate GHG emissions in the monitoring period”, and indicates that to estimate Soil Organic Carbon (SOC) Equation 2.25 of the 2006 IPCC guidelines is used.

According to equation 2.25, SOC estimates include parameter D as follows:

<p>EQUATION 2.25 ANNUAL CHANGE IN ORGANIC CARBON STOCKS IN MINERAL SOILS</p> $\Delta C_{Mineral} = \frac{(SOC_0 - SOC_{(0-T)})}{D}$
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“D = Time dependence of stock change factors which is the default time period for transition between equilibrium SOC values, yr. **Commonly 20 years**, but depends on assumptions made in computing the factors FLU, FMG and FI. If T exceeds D, use the value for T to obtain an annual rate of change over the inventory time period (0-T years).”

Following the application of equation 2.25, the audit team couldn’t confirm the inclusion of parameter D in the Deforestation SOC ERs estimates provided for this monitoring period.

In file MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx. sheet **Suivi**, the deforestation SOC ERs (Cells H27 to H29) do not include the application of parameter D (cells F27 to F29), and hence is not in conformance with the program requirements.

Project Personnel Response:

We forgot to include D in the formulas. D has been included in the calculation of the emission from the SOC, in the file MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v9, sheet Suivi, Cell H27 to H29.

The link is :

https://docs.google.com/spreadsheets/d/1pLS2bxt2AVbr6xiUazlGDeSfCPlyCCVj/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

This change has impacted the reference level, and the emission reductions estimated for the first and second reporting periods. This correction has been described in sections 1.3 of the monitoring report. The correction has also resulted in the deduction of wrongly estimated ERs for the 1st reporting period from the 2nd reporting period as explained in section 4.3 of the Monitoring Report and as reflected in section 8 of the Monitoring Report.

Auditor Response:

The audit team confirmed that the changes provided to the calculations of the Monitoring estimates now include the division by parameter D in the SOC calculation.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 32 Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx,

MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.”

Section 4.3 of the ER-MR states “Also, it is important to highlight that given that the reference level was corrected, the correction resulted in additional gross emission reductions for the first monitoring period equivalent to 26,852 tCO₂e. See below table. ...As agreed with the FMT these additional ERs will be claimed as part of the second reporting period. For this reason the total gross ERs to be reported here are (15,915,144 + 26,852) = 15,941,996 tCO₂e. (See Reduction d’emissions sheet, column E, line 117 in, the Excel file entitled MADA Calcul RE”

The audit team couldn’t confirm the difference in ERs presented in this table (26,852). Looking at the calculation workbook “MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx”, sheet Reduction

d'emissions sheet, column E, line 117 in, it is unclear how the 26,852 has been derived. Please provide the calculations of this value with traceable cells in the excel workbook for our verification.

Project Personnel Response:

Currently, after the addition of D in the calculation of emissions due to SOC, the correction of the reference and monitoring level for the first period has resulted in a subtraction of gross emission reductions for the first monitoring period, equivalent to 116,820 tCO₂e.

The derivation of this value can be explained in the file "FCPF_template sections 4_7_8_FCPFMR_Madagascar", link :

https://docs.google.com/spreadsheets/d/1_bmApfYxFIs7WaZzYcGx4o3N_A6guqVr/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

Auditor Response:

Thank you for the evidence provided. While we were able to confirm the RL differences in file "FCPF_template sections 4_7_8_FCPFMR_Madagascar.xlsx", sheet "Adjustments", the audit team couldn't not verify and confirm the source of the hard coded values presented in cells F3 and G3, corresponding to the Before and After ER values reported for 2020.

It is unclear how those values were derived in the calculation workbook "MADA_CalcuIRE...v9". Please provide the calculations of these values with traceable cells in the excel workbook so we can confirm the calculation of the 116,820 difference reported.

This finding remains open.

Project Personnel Response 2:

The files presented in the following links show the correction made to the calculation file for the first period and for the second period, as well as the adjustment. After correction, the difference becomes 141,025 instead of 116,820 :

https://docs.google.com/spreadsheets/d/1FDAR2tYWwQv_i9TIpCO104uDs7D9to90/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true ;

<https://docs.google.com/spreadsheets/d/1VipfbofKqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true> ;

https://docs.google.com/spreadsheets/d/1_0S7BUOAXX8WZ8QKbpRL9G6ZbbEUbcWo/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

Auditor Response 2:

The audit team reviewed the updated calculation workbooks. However, we were not able to verify all the changes provided (please see image below below). We realized that all the estimates changed in both the Reference Level and the Monitoring Period. Please provide a detailed explanation of these changes and the corresponding evidence for our verification and confirmation of the new values.

Project Personnel Response 3:

As explained in the videos attached to this response all estimates were updated to incorporate the correct program area and to account for legacy emissions of Soil Organic Carbon (in addition to the corrections

pertaining to the emission factors for secondary forest, agroforestry and plantations, and the root to shoot ratio for eucalyptus. These updates were described in the monitoring report section 1.3:

- On the first screen shot, the values flagged on the left by SCS reflect the changes in the program area. Given that the program area was updated, all area estimates were updated as well. It is important to note, that the values presented in this column (23,368) were not used for the final estimates given that the emissions from SOC have been corrected to account for legacy emissions.

The correct SOC emission estimates are presented in rows 35-46 tab Niveau de Reference. To avoid confusion, that column has been removed from the estimates.

Now (Left image) VS Before (Right image)

tCO2/year	tCO2/year
3,156	3,187
25,843	26,091
184	186
184	186
0	0
29,368	29,650

- On the second screenshot presented by SCS, the differences reflect the updates in the program area and area estimates. As explained in finding 5, the program area has been reduced and as such all the area estimates for the landcovers were updated.

(ha/year)	(ha/year)
2,724.1	2,750
22,304.5	22,518
159.0	161
159.0	161
0.0	0

- Finally the third screenshot also reflects the updates to the program area. Once the area is updated, all area estimates are updated as well.

(ha/year)	(ha/year)
553	558
11,489	7,415
251	254
0	0
84	85

The audit team could not confirm the new estimates. Please provide a step by step description/demonstration of how the following areas were derived:

Deforestation areas in MR2:

	(ha/year)
Forêt dense humide	553
Forêt humide dégradée	11,489
Forêt secondaire	251
Agroforestry	0
Plantations	84

Degradation areas in MR2:

	(ha/year)
Primary forest to disturbed forest	6,846

Deforestation areas in RL:

	(ha/year)
Forêt dense humide	2,724.1
Forêt humide dégradée	22,304.5
Forêt secondaire	159.0
Agroforestry	159.0
Plantations	0.0

Degradation areas in RL:

	(ha/year)
Primary forest to disturbed forest	11,712

Project personnel response 4:

Following the program's area correction (see DA sheet of MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10 file (link : <https://docs.google.com/spreadsheets/d/1VipfbofqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&ouid=114519974924085988913&rtppof=true&sd=true>), cell B1), the corrected estimates appear automatically according to the formulas in the Excel sheets of the MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10 file (see interrelationship of formulas: DA sheet, cell B1 to row 41 of this DA sheet to row 44 (please click on the numbers to see all the corresponding formulas), then see the impacts in the Niveau de référence sheet and the Suivi sheet, column C. So there is an interrelation of formulas between the DA, Niveau de référence, and Suivi sheets.

The DA sheet shows the calculation of areas/ha/stratum

The Niveau de référence and Suivi sheets show the calculation of emissions by activity (deforestation, enhancement, degradation, etc.). But the formula is Emission = Activity data x Emission factor, so column C shows the activity data values (ha/year) from the DA sheets. Columns D to I show the emission factor calculations, and column J shows the actual formula Emission = AD x EF.

Starting in row 109 is the table for calculating total emissions due to deforestation + degradation - Absorption, which is then broken down by credit year in the last table at the bottom. All of this takes place in the Niveau de référence sheet and/or Suivi sheet of the

MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10 file to calculate the reference emission and the monitoring emission.

Finally, the Emission Reduction sheet (starting from row 122) shows the calculation of emission reductions based on the formula $RE = \text{Reference emissions} - \text{Monitoring emissions}$, which first gives the gross emission reduction (see row 126). In addition, cell E130 shows the subtraction of the gross emission reduction from the overestimation of errors. Finally, starting from row 147, the subtraction of Gross ER from the Monte Carlo uncertainty and the reversal risk value is shown to obtain the net emission reduction.

Auditor Response 5:

Thank you for your thorough explanation. The audit team was able to confirm the new values in the calculation workbook v10.

However, we were not able to confirm the source and calculation of the areas presented in sheet “DA” for the Reference Level and Degradation, how these were derived. Please see finding 5 for more details about this.

Also, the audit team was not able to confirm how you obtained the SOC value indicated in the file “MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10.xlsx”, sheet “Follow-up”, cell D36: **17,067.95**. Please provide evidence of this.

Program personnel response6:

The value 17,067.95 in the file “MADA_CalculRE_v00_20250807_update_for_ER_Report_2021_2022_v10.xlsx,” sheet “Suivi,” Cell D36 is the value of emissions due to SOC for the monitoring of the first period, and transferred to the monitoring of the second period as a legacy emission. Please refer to the file MADA_CalculRE_v00_20211109_update_for_ER_Report_version_6_errorremoved_New SOC, cell D36, link: https://docs.google.com/spreadsheets/d/1_0S7BUOAXX8WZ8QKbpRL9G6ZbbEUbcWo/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true (first monitoring period)

The process is as follows:

1. The areas of change for each land cover (e.g. humid dense forest, humid degraded forest, etc.) listed in the tab DA for the monitored period (2020) are summed and then multiplied by the years covered in the reporting period (one).
2. The activity data is multiplied by the emission factor which is the difference between the initial carbon stock (before the transition) and the final stock (after the transition) and then by the conversion factor of 3.67. The resulting value is then divided by 20 years to comply with the IPCC guidelines.
3. The final estimate of emissions from SOC is reported in cell I36 tab SUIVI (link : https://docs.google.com/spreadsheets/d/1_0S7BUOAXX8WZ8QKbpRL9G6ZbbEUbcWo/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true)

Auditor Response 6:

The auditor confirmed the additional evidence provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 33 Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx,
MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v8.xlsx

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.”

Section 5.2 of the ER-MR states “The value of Emissions Reduction during the reporting period (tCO₂-e), at 15,941,966 lies well within the upper and lower bounds of the 90% confidence interval of the second report ER MC. This value can be seen in the RE calculation file, Emissions reduction sheet, column B, line 113.

In addition, the value of Emissions Reduction during the crediting period (tCO₂-e), which is 15,941,966 + 2,663,796 = 18,605,792”

The audit team found the following inconsistencies about this statement:

15,941,966 vs 15,941,996 final ER estimates reported in the RE calculation file, sheet “Réduction d'émissions”, Cell E117

1. The aforementioned “Emissions reduction sheet, column B, line 113”, shows in column B the total ERs without the inclusion of 15,915,144, not the 15,941,966 mentioned.
2. “15,941,966 + 2,663,796 = 18,605,792”. The final ERs presented are in the RE file are 15,941,996
3. “15,941,966 + 2,663,796 = 18,605,792”. Why is the 2,663,796 added here, where does this comes from?

Program Personnel Response:

The aim here is to see whether the ERs for the reporting period and for the accounting period (Period 1 + Period 2) lie well within the Monte Carlo confidence intervals.

1-Actually, after the correction made on the inclusion of D in the calculation of the emission due to SOC, the ER value for period 2 is 15,150,458 (cell H6, sheet “Section 4.3” of file “FCPF_template sections 4_7_8_FCPFMR_Madagascar”, link :

https://docs.google.com/spreadsheets/d/1_bmApfYxFls7WaZzYcGx4o3N_A6guqVr/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

but after subtraction by 116.820, which is the difference in value of the gross ER for periode 1 correction (cf cell I8, Adjustments sheet), the gross ER for period 2 becomes 15,033.639 (see Cell D5, Sheet Section 8 2nd MR).

This value is well within the Monte Carlo confidence interval presented in the file MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2; Sheet REL, Cell AH13 to AH 14, link : .

https://docs.google.com/spreadsheets/d/1SG02YonLJIHn4uRj_7xwsrt8kFXBSqrk/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

2-The raw ER value for period 1 + period 2, which is equal to 15,033,639 + 2,663,796 = 17,697,435, is also well within the Monte Carlo confidence interval presented in the file

MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2; REL sheet,

Cell AH 3 to AH 4. 2,663,796 is added here just to check the uncertainty for the accounting period (period 1 + period 2) but it does not enter into the RE calculation for period 2.

Auditor Response:

Thank you for your explanation. However, the audit team is still unable to replicate some of the updated values provided. Please see below:

1) File "FCPF_template sections 4_7_8_FCPFMR_Madagascar.xlsx" presented in the link above:
https://docs.google.com/spreadsheets/d/1_bmApfYxFIs7WaZzYcGx4o3N_A6guqVr/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

Sheet "Section 8 2nd MR" presents a total ERs during the MR = 15,033,539 vs 15,033,835 reported in the calculation workbook "MADA_CalcuRE...v9", sheet "Réduction d'émissions", cell E117.

2) Sheet "Section 4.3", cell H5, shows Total ERs in MR = 7,451,166 vs 7,450,970 reported in the calculation workbook "MADA_CalcuRE...v9", sheet "Réduction d'émissions", cell B106.

This finding remains open

Project Personnel Response2:

The values have been updated in the files presented in the following links and in section 5.2 of the report :
<https://docs.google.com/spreadsheets/d/1VipfbofkqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true> and
https://docs.google.com/spreadsheets/d/1FDAR2tYWrQv_i9TIpCO104uDs7D9to90/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true

Auditor Response2:

Thank you for your explanation. However, the audit team is still unable to replicate some of the updated values provided. Please see below:

1) File "FCPF_template sections 4_7_8_FCPFMR_Madagascar.xlsx" presented in the link above:
https://docs.google.com/spreadsheets/d/1_bmApfYxFIs7WaZzYcGx4o3N_A6guqVr/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

Sheet "Section 8 2nd MR" presents a total ERs during the MR = 15,033,539 vs 15,033,835 reported in the calculation workbook "MADA_CalcuRE...v9", sheet "Réduction d'émissions", cell E117.

2) Sheet "Section 4.3", cell H5, shows Total ERs in MR = 7,451,166 vs 7,450,970 reported in the calculation workbook "MADA_CalcuRE...v9", sheet "Réduction d'émissions", cell B106.

This finding remains open

Project Personnel Response 3:

The values have been updated in the files presented in the following links and in section 5.2 of the report :
<https://docs.google.com/spreadsheets/d/1VipfbofkqXsB8TBOzyVjNALBLUOitCvh/edit?usp=sharing&ouid=114519974924085988913&rtpof=true&sd=true> and
https://docs.google.com/spreadsheets/d/1FDAR2tYWrQv_i9TIpCO104uDs7D9to90/edit?usp=sharing&ouid=114519974924085988913&rtpof=true&sd=true

Auditor Response 3:

This finding is related to MCAR5 and MCAR32 above. The audit team reviewed the updated calculation workbooks, however, we were not able to verify all the changes provided, due to the areas changed. We realized that all the estimates changed in both the Reference Level and the Monitoring Period. Please provide a detailed explanation for these changes and the corresponding evidence to verify and confirm the new areas provided.

Project Personnel Response 4:

See responses to finding 5 and 32

Auditor Response 4:

To avoid redundancy, the response of the values discrepancies will continue to be addressed in finding 32.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 34 - Dated 14 May 2025 – CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx,
 MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1

Finding: Criterion 9 of the Framework states: “Uncertainty of activity data and emission factors used in Reference Level setting and Measurement, Monitoring and reporting is quantified in a consistent way, so that the estimation of emissions, removals and Emission Reductions is comparable among ER Programs.” Also, Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.”

In the uncertainty calculation workbook MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1, sheet REL, Cell AH11, the audit team couldn’t confirm where the value 15,941,340 comes from or how it was derived. Please clarify.



Project Personnel Response:

This value is not included in the calculation, it was only included for internal reference. The value has been deleted.

Auditor Response:

The audit confirmed the information provided.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 35 Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx;

MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1-wecompress.com_.xlsx

Finding: Criterion 9 of the Framework states: “Uncertainty of activity data and emission factors used in Reference Level setting and Measurement, Monitoring and reporting is quantified in a consistent way, so that the estimation of emissions, removals and Emission Reductions is comparable among ER Programs.

Indicator 9.1: Uncertainty associated with activity data and emission factors is quantified using accepted international standards, for example by providing accuracy, confidence interval, distribution of error, and propagation of error. Where errors in data and methods are considered large as defined in IPCC Guidelines, Monte Carlo methods (numerical simulations) shall be used to estimate uncertainty.”

Section 3.1 of the monitoring report (MR) in the table for parameter ‘*SOC_{Before,j} SOC_{After,i}*’ under sub-section ‘C/Inference’ shows a summary table for estimates of SOC stocks for forest and non-forest that includes a mean, sample size (N), and standard deviation. The mean, sample size, and standard deviation for Forest SOC are 110.97, 125, and 39.17, respectively.

In the workbook

‘MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.1-wecompress.com_.xlsx’, sheet ‘Input data and Results’, the same mean (110.97) for SOCbefore [deforestation] is shown in cell D25, and the ‘Standard Error’ of this value is 6.26.

It is not clear why ‘6.26’ is being taken as the standard error for SOCbefore, since the typical formula for standard error is ‘standard deviation’/SQRT(‘sample size’). Given the previously-mentioned summary statistics, the standard error for SOCbefore would be 39.17/SQRT(125), which does not equate to 6.26 (the SQRT(39.17) does equal 6.26, however).

Furthermore, the cells L25:L29 of the same sheet and workbook (under column ‘Source’) are blank. The audit team needs more information as to how standard error is being computed for SOCbefore, SOCafter, FMG, FI, and D.

Project Personnel Response:

The standard error for SOC before and SOC after has been recalculated (see file “MADA_CalculRE_v00_20240617_update_for_ER_Report_2021_2022_v9”, sheet COS, cell I3 and I8, link : https://docs.google.com/spreadsheets/d/1pLS2bxt2AVbr6xiUazlGDeSfCPlyCCVj/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

) and the corresponding values in the Monte Carlo uncertainty file have been updated. The standard error calculation for the other FMG and FI parameters can be found in the file MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2, link : “Input data and Results” sheet, Cell E27 to E28.

Sources in column L are updated in “Input data and Results” sheet

Auditor Response:

The audit team reviewed the updated standard error calculations and have no further questions. We confirm the updated values are now incorporated into the project’s uncertainty calculations. No further questions.



This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 36 Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference:

MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_sensitivity.xlsx

Finding: Criterion 7 of the Framework states: “Sources of uncertainty are systematically identified and assessed in Reference Level setting and Measurement, Monitoring and reporting.

Indicator 7.2: The sources of uncertainty identified in Indicator 7.1: are assessed for their relative contribution to the overall uncertainty of the emissions and removals.”

In the workbook

‘MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_sensitivity.xlsx’, sheet ‘Sensitivity’, the column AD (‘No Root to shoot ratio’) and AE (‘No Emission factor’) values are hardcoded without any explanation to determine how these values were calculated. During the site visit it was mentioned that they come from a different spreadsheet and were manually generated.

Please provide the audit team with more information on how column AD and AE in the aforementioned workbook and sheet were calculated.

Project Personnel Response:

The paths for calculating the values in columns “AD” and “AE” are described in the file MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis, sheet REL, link :

https://docs.google.com/spreadsheets/d/1tFXORQqiel7J8SYt0J19T6x_JL07Wsaj/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

and the corresponding files are as follows:

MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis_NoEF; link : https://docs.google.com/spreadsheets/d/1jd3tUDFsyC-FQlIPaMS1VPo4A_vXBvrt/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis_NoRS; link : https://docs.google.com/spreadsheets/d/1rmNliTWl3ABvLI_-u6qQ4W8f27Tip-W1/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis_NoRS; link : https://docs.google.com/spreadsheets/d/1rmNliTWl3ABvLI_-u6qQ4W8f27Tip-W1/edit?usp=drive_link&oid=114519974924085988913&rtpof=true&sd=true

Auditor Response:

The audit team couldn’t verify the information provided, and dhave the following observations: 1)The file provided in the first link

“MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis.xlsx” does not contain the sensitivity analysis, as included in the previous version, sheet “Sensitivity”.

2)The audit team couldn’t find the source of the aforementioned values in files “...SensAnalysis_NoEF” and “...SensAnalysis_NoRS”.

This finding remains open.

Project Personnel Response 2:

The file

MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis

s contains sheets named “Sensitivity,” “Sensitivity_No_RS,” and “Sensitivity_No_EF” showing the sources with the following links:

“MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis.xlsx”. Link: <https://docs.google.com/spreadsheets/d/1RBe5eOond6rq00iN5Q-kMYowTDMz6KCC/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true>

“MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis_NoEF”. Link:

<https://docs.google.com/spreadsheets/d/1yHTJbY02u4p13yRTfKeDeeTCOi8E0scU/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true>

“MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis_NoRS”. Link:

<https://docs.google.com/spreadsheets/d/14ylq8szqAiMo0N5S7zBDx6vQImAK1Z1l/edit?usp=sharing&oid=114519974924085988913&rtpof=true&sd=true>

Auditor Response 2:

Thank you for the additional materials. The audit team checked the referenced workbooks and has no further questions on how the sensitivity analysis is conducted in sheet ‘Sensitivity’ of workbook ‘MADA_Uncertainty_Analysis_20240618_V00_for_ER_Report_monitoring_period_2021_2022_V6.2_SensAnalysis’. This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 37 - Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx

Finding: Criterion 23 of the MF states “To prevent double-counting, ERs generated under the ER Program shall not be counted or compensated for more than once. Any reported and verified ERs generated under the ER Program and sold and/or transferred under an ERPA shall not be sold, offered or otherwise used or reported a second time by the ER Program Entity. Any reported and verified ERs generated under the ER Program that have been sold and/or transferred, offered or otherwise used or reported once by the ER Program Entity shall not be sold and transferred to the Carbon Fund.”

Section 6.3 of the ER-MR states “For ERs generated under Atiala Atsinanana Emission Reduction Program, Madagascar agrees to use the World Bank Carbon Asset Tracking System (CATS) registry to manage the Program’s certified ER units. It should also be noted that only the Government through the Ministry of the Environment has the capacity to sign payment agreements and to market Emission Reductions. It is this same entity that carries out the validation of carbon projects (including on voluntary markets), and which also makes the corresponding adjustment related to the NDC to avoid double counting.”

And, Section 6.2 indicates “Madagascar has developed its own national system called the REDD + Initiatives and Programs Information System (SIIP)”

In our due diligence, the auditors found the following AFOLU projects registered in the Verra webpage that fall in the program area:

Fagnako: Agroforestry project in Madagascar, Project ID 5160

The Makira Forest Protected Area in Madagascar, Project ID 1215

Please provide additional information about the actions or interventions that the program has or will be undertaken to avoid double counting about these specific projects. What mechanisms does CATS, the SIIP or the Government through the Ministry of the Environment have in place to prevent double counting? Do these systems work in coordination, or as separate entities? Also please provide a link to the SIIP system.

Project Personnel Response:

Since 2018, a national framework has been established to coordinate the implementation of the REDD+ mechanism. Within this framework, any initiative engaged in forest carbon credit generation or sales must comply with these national regulations and must be formally approved by the National REDD+ Coordination Office (BNCCREDD+) to be deemed eligible. To prevent double counting, all Emission Reduction (ER) projects or programs implemented within the national territory are subject to specific procedures. The Information System on Initiatives and Programs (SIIP) is the digital platform that supports the management and monitoring of these projects and programs by the national REDD+ team. Due to contractual issues with the web hosting provider, the system is currently not accessible online; however, all procedures remain fully operational and are rigorously followed and recorded by the designated unit.

The approval process is as follows:

- Review of the application for approval, including evaluation of eligibility criteria based on the Project Design Document (PDD);
- Geospatial verification (conducted by the Monitoring, Reporting and Verification (MRV) team) to ensure that the area and crediting period do not overlap with existing initiatives;
- On-site verification of the project's location, planned interventions, and boundary compliance;
- Issuance of official approval if the evaluation is positive, followed by registration with a unique reference number.

This procedure combines a rigorous assessment of the technical documentation (PDD), in-depth geospatial analysis using GIS tools to identify any spatial or temporal overlap with existing activities, and field verification to confirm the actual alignment of declared boundaries and interventions. Furthermore, centralized registration with a unique reference number ensures full traceability of all approved projects.

Regarding the specific projects mentioned:

The Makira project was implemented prior to the establishment of the national REDD+ program. In 2018, this Protected Area—owned by the Malagasy State and managed under delegation by WCS—ceased to operate as a standalone project. It was fully integrated into the PRE AA Program and no longer generates Emission Reductions (ERs) under an individual project framework; all ERs are now accounted for under the jurisdictional Program. We confirm that there is no double counting of ERs for this area and crediting period.

As for the Fagnako project, it is still under development. According to the information available on the public registry, the project's crediting period starts in 2023. Therefore, it does not overlap with the crediting period under review (2021–2022). Furthermore, this project has not received authorization to generate credits for any period that falls within the Program's timeline. The REDD+ Coordination Office will take all necessary steps to formally request that the project adjust its crediting period and fully comply with the procedures established under national legislation. Consequently, these projects are not included in the calculation of ERs under the PRE AA Program contracted with the FCPF, which covers the period 2020–2024.

Auditor Response:

Thank you for your response. Please provide evidence of the former answer to verify that the following approval process was followed with the Fagnako project ID 5160 that is under development:

- Review of the application for approval, including evaluation of eligibility criteria based on the Project Design Document (PDD);
- Geospatial verification (conducted by the Monitoring, Reporting and Verification (MRV) team) to ensure that the area and crediting period do not overlap with existing initiatives;
- On-site verification of the project's location, planned interventions, and boundary compliance;
- Issuance of official approval if the evaluation is positive, followed by registration with a unique reference number.

This finding remains open.

Project Personnel Response2:

The activities implemented under the Fagnako Project are not REDD+ activities, but rather reforestation activities carried out on lands that are not, or are no longer, classified as forest land. Although the approval process for ARR (Afforestation, Reforestation and Revegetation) projects is distinct from that of REDD+ projects, it remains under the supervision of the National Office on Climate Change and REDD+. This oversight aims to ensure the centralization of national data and to avoid any risk of overlapping projects within the same period and area.

According to the information available on the Verra registry, the Fagnako Project does not fall within the relevant verification period (2021–2022), as its declared crediting period starts in 2023.

However, even though the project’s crediting period lies outside the scope of the relevant verification period, it should be noted that it remains subject to the former Decree No. 2021-1113 regulating the forest carbon market, which remained in force until 6 June 2025. This decree established that the State was the sole entity authorized to generate forest sector carbon credits within the national territory for areas covered by a Jurisdictional Program. Consequently, no third party could have generated carbon credits within the Program area, as all Emission Reductions (ERs) were accounted for under the Program, and no nested projects were permitted.

Following the adoption of the new Decree No. 2025-656 on 6 June 2025, the regulatory framework has been amended: it is now possible for nested projects located within Jurisdictional Programs to generate carbon credits, provided that they have been formally validated as such and only for periods subsequent to the entry into force of the said decree, i.e., from June 2025 onwards, which is beyond the Program’s period. The BNCCREDD+ is currently in discussions with Canopy Energies regarding the revision of the start date of the crediting period in order to ensure compliance with national legislation. The correction is expected to be effective at the time of the next verification period, covering 2023–2024.

Auditor Response 2:

Thank you for this additional context. However, the audit team has not been able to confirm the systems in place to avoid double counting as established in Criterion 23 mentioned above and Criterion 37 “Based on national needs and circumstances, the ER Program works with the host country to select an appropriate arrangement to avoid having multiple claims to an ER Title.”

Through independent correspondence with the WB and the FMT team, the audit team will reach out to be closing this MCAR and opening an mCAR in order to meet this criterion by the next verification event. Until then, this finding remains open.

Project Personnel Response 3:

Given that there is no temporal overlap with the current reporting period (2021-2022) and considering that Madagascar is not reporting removals for the current reporting period, the FMT decided to authorize the issuance of an mCAR that will have to be addressed in the subsequent reporting period.

Auditor Response 3:

The audit team reviewed the information provided. Based on this information, we will submit a follow mCAR to the FMT for their approval.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

MCAR 38 - Dated 14 May 2025 - CLOSED

Standard Reference: FCPF Carbon Fund Methodological Framework v3

Document Reference: ER_monitoring_report_erpa_madagascar_2rp_041525.docx,
Final ER PD MDG6_20180606_Posted_0.pdf

Finding: Section 3.1 of the Methodological Framework states that “the (ER Program) strives to be consistent with evolving UNFCCC decisions on REDD+... Relevant principles include those on transparency, consistency, completeness, and accuracy.” Moreover, Indicator 14.1 of the MF states “The ER Program monitors emissions by sources and removals by sinks included in the ER Program’s scope (Indicator 3.1:) using the same methods or demonstrably equivalent methods to those used to set the Reference Level”

The initial ER Project Development report “Final ER PD MDG6_20180606_Posted_0.pdf” available in the FCPF website, Section 3.1 “Accounting area of the ER Program”, is stated “The ER-P area covers a total of 6,904,417 ha (more than 10 percent of the Malagasy territory)”.

Section 3.1 of the ER-MR “Fixed Data and Parameters” states “In order to convert the proportions to areas, the average proportion is multiplied by the total area of the region of interest of 6,980,308 ha.” The audit team couldn’t confirm the program area as set in the ERPD. Please indicate if the ROI is the same as the program area and provide evidence of the polygon shapefile that corresponds to this program area. In addition, during the site visit, the program team presented some information that pertained to the Rp_preaa_2122, please provide said file.

Project Personnel Response:

Concerning the Program Atiala Atsinanana area, the link to the file “rp_preaa_2122” is as follows : https://drive.google.com/file/d/1BB_ZKZ-GEEmzCN8Skyez37SorbPu653oW/view?usp=sharing and then:

“estimates/input” is the path). The operational shapefile of the Program can be downloaded by following the next link: https://drive.google.com/file/d/15J_UWHMOo_TnNGBw9K78bSPLBzFLRPo3/view?usp=sharing

). The area seen in the ER Project Development report corresponds to an old area, where four towns were not included (during the Development of the Program) but were considered after.

Auditor Response:

Thank you for the explanation. However, this is related to MCAR5, how was the total area of 6980308.19 (cell O1 in workbook ‘deforestation_2021-2022.xlsx’) calculated, and why is this different from the area in the shapefile provided 6913969?

This finding remains open.

Project Personnel Response 2:

Finally, the origin of value 6,980,308.19 ha was not found; the true value is 6,913,969 ha.

Auditor Response 2:

Please provide a detailed explanation and corresponding evidence on how exactly the 6,913,969 ha has been calculated. The audit team couldnt verify the numbers provided in the calculation workbook.

Project Personnel Response 3:

See response to finding 5

Auditor Response 3:

To avoid redundancy, the response of the project area will continue to be addressed in finding 5.

This finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

mCAR 39 – OPEN**Dated 25 Nov 2025****Standard Reference:** FCPF Methodological Framework**Document Reference:** er_monitoring_report_erpa_madagascar_2rp_final_version_09262025_clean.docx**Finding:**

This finding relates to MCAR 37. Criterion 37 of the Methodological Framework states “Based on national needs and circumstances, the ER Program works with the host country to select an appropriate arrangement to avoid having multiple claims to an ER Title.” This criterion contains 4 indicators with specific requirements of this data management system such as what attributes the system must contain about projects and programs (Indicator 37.2), that the system be publicly available (indicator 37.3) and that the system define operational procedures (Indicator 37.4), among other details.

Section 6.2 of the ER-MR indicates “Madagascar has developed its own national system called the REDD + Initiatives and Programs Information System (SIIP). How the SIIP works... Within this framework, any initiative engaged in forest carbon credit generation or sales must comply with these national regulations and must be formally approved by the National REDD+ Coordination Office... Due to contractual issues with the web hosting provider, the system is currently not accessible online”.

The auditors were able to confirm that this draft Data Management System has been established. However, following up on MCAR37 we found that is not fully operational. Hence, we have been unable to confirm that it meets the requirements of Criterion 37, particularly: (1) the data and attributes served on this website, (2) the REDD activities and carbon pools selected, (3) the administrative procedures for the operations of the Data Management System. The auditors are issuing this mCAR to require that the Program have a fully functional Data Management System in place (including all the details required by the MF) during the next verification event.

Project Personnel Response:**Auditor Response:**