



**Verified Carbon
Standard**

MADAGASCAR IMPROVED COOKSTOVE PROJECT BY KCM-WOOD#CPA-W-030



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Summary:

- A description of the project

The project activity is a community-based project activity that implemented the energy efficient improved cooking practice at households in Madagascar to replace inefficient open firing cookstove used in the baseline. This project is designed as a Grouped Project activity of 10 different Instances which are registered as 'Component Project Activity' (CPAs) of a "Programme of Activities" (PoA) registered under 'Clean Development Mechanism' (CDM) of UNFCCC with CDM PoA ID 10443¹. The ICS promoted under this grouped project activity are of two types viz. (i) SoaRehitra portable ICS and (ii) Lamasinina fixed ICS in Host Country "Madagascar". Each project activity instance is fully implemented with a total of 13,752 and 13,604 numbers of households for Portable ICS (SaoRehitra) and Fixed ICS (Lamasinina) respectively which were covered under this grouped project.

A description of the validation and verification

The approved VCS methodology AMS-IL.G" Energy efficiency measures in thermal applications of non-renewable biomass " (version 9.0) is applied to quantify the GHG emission reductions achieved in this project. The calculation of the GHG emission reductions is carried out in a transparent and conservative manner. This project is being developed in conjunction with the validation and 1st periodic of verification, thus joint Validation & Verification has been conducted.

- The purpose and scope of validation and verification

Applus+ Certification aims to conduct an independent assessment of the project activity against all criteria required for registration under the VCS along with joint verification of the project for its first monitoring period. The 10 instances included under this Grouped Project are registered CPAs of the CDM PoA 10443 which were individually listed under VCS as individual Project Activity and awaited their gap validation from CDM to VCS. However, in line with the VCS Standard 4.7 para 3.23.9 (2), project proponent is now required to undergo grouping of the projects and validate them as instances to the group project activity. Thus, the validation scope includes gap validation of 10 instances which formed the Group Project, also to perform verification of the first monitoring period from 21-April-2022 to 29-February-2032 (inclusive of both dates) of the group project activity. To ensure that the project, as documented, is reasonable, sound, and meets the specified criteria, the validation process includes evaluating the project's compliance with VCS standards and programs, adherence to the applied methodology/28/ (including procedures for demonstrating additionality), and the likelihood that the methods and procedures outlined in the project description will generate verifiable GHG data and information when implemented. Validation is a mandatory step, deemed essential to assure stakeholders of the project's quality and its potential to generate Verified Carbon Units (VCUs). This validation is an integral part of the VCS project cycle and culminates in the Validation and Verification Body (VVB) determining whether the project activity is eligible for submission to the VCS registry. The objective of verification is to have an independent review by a VVB to confirm the monitored GHG emission reductions that have occurred as a result of the project activity during a defined monitoring period

- The method and criteria used for validation and verification

The joint validation and verification consisted of desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final Validation & verification report. The Validation and

Verification is conducted in line with the requirements specified in the latest version of the VCS Validation and Verification Manual/32/ and applying the appropriate auditing techniques. The VVB team assessed the project activity's compliance against the VCS Standard Version 4.7/25/, the applied methodology/28/ and the joint project description and monitoring report/1/.

- The number of findings raised during validation and verification

During the course of Joint validation & verification, total 05 findings were raised, which includes: 02 Corrective Action Requests (CARs); 03 Clarification Requests (CLs) and 00 Forward Action Requests (FARs). All the findings were raised and successfully resolved by the PP.

- Any uncertainties associated with the validation and verification

After thorough assessment of VCS Joint PD&MR/1/ and ER Sheet/2/ submitted by PP along with the supporting documents no further restrictions or uncertainty for both validation and verification were detected.

- Summary of the validation and verification conclusions

Korea Carbon Management Ltd has contracted LGAI Applus+ Certification Private Limited to carry out the joint validation and verification of the project, "Madagascar Improved Cook Stove Project by KCM-Wood#CPA-W-030" (VCS ID 2794) with regard to the relevant requirements of VCS Standard Version 4.7/25/. VVB confirms that all validation and verification activities including objectives, scope and criteria, level of assurance, project description, monitoring and monitoring report adhere to VCS Standard Version 4.7/25/ and correctly applied the methodology AMS-II.G Version 9.0/28/. The monitoring system is in place and the emission reductions are calculated without material misstatement as verified during desk review of VCS Joint PD&MR/1/, ER/2/, supporting documents accompanied by onsite visit and interview of selected sample households.

Hence, Applus+ Certification is able to certify that the emission reductions from the project for validation for 10 years of fixed crediting period from 21-April-2022 to 29-February-2032 (inclusive of both dates) is 4,281,577 tCO₂e and annual average of 389,234 tCO₂e. The PP has further estimated the annualized average based on actual remaining crediting period for each instance and results annualized average value is 373,977 tCO₂e (Details have been verified in ER sheet /2/ (Refer: TAB Ex-ante__Emission Reduction, CELL BL27 to BL39, also referred under the last table under the section 1.1 of the JPD MR).

For the Verification Applus+ Certification is able to certify that the emission reductions from the project during the first monitoring period from 21-April-2022 to 30-April-2024 (inclusive of both dates) amounts to 692,366 tCO₂e.

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1 INTRODUCTION

1.1 Objective

Korea Carbon Management Ltd (hereafter referred as KCM) commissioned LGAI Technological Center, S.A. (hereafter referred as Applus+ Certification) to carry out the Joint Validation and Verification under VCS of the grouped project titled as “Madagascar Improved Cook Stove Project by KCM-Wood#CPA-W-030” (VCS ID 2794). The achieved ERs for the first monitoring period from **21-April-2022 to 30-April-2024 (Both dates Included)** is 692,366 tCO₂e.

The grouped project has fixed crediting period of 10 years from **21-April-2022 to 29-February-2032** (inclusive of both dates)² and the total estimated emissions reduction for the effective crediting period is 3,739,774 tCO₂e for entire crediting period and annual average of 373,977 tCO₂e. The PP has further estimated the annualized average based on actual remaining crediting period for each instance and results annualized average value of the grouped project as 404,056 tCO₂e. The PP has further estimated the annualized average based on actual remaining crediting period for each instance and results annualized average value is 373,977 tCO₂e (Details have been verified in ER sheet /2/ (Refer: TAB Ex-ante__Emission Reduction, CELL BL27 to BL39). More details are included under the section 5 of this report.

The objective of the validation activity was to conduct an independent assessment of the project to determine whether the project complies with the pre-claimed validation criteria, as per VCS Validation & Verification Manual/32/. Also, the objective includes the monitoring procedures with the applied methodology, including the procedure for the demonstration of additionality specified in the methodology adopted to establish the project and that the GHG emission reductions and removals reported in the VCS Joint PD&MR/1/ are materially accurate and correctly calculated.

The objective of verification is to have an independent review ex-post determination by VVB of the monitored GHG emission reductions that have occurred as a result of the project activity implemented during the first monitoring period from 21-April-2022 to 30-April-2024 (both dates included). The objectives also include the assessment of the project implementation, monitoring and that all physical features (technology, project equipment, and monitoring) are in place, data is recorded and stored as per the monitoring methodology and established monitoring plan and it is accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The scope of the validation is to validate the emissions reductions of the proposed project activity against the Verified Carbon Standard Version 4.7 as per the applied methodology and associated tools, for the crediting period from **21-April-2022 to 29-February-2032** (inclusive of both dates). Similarly, the scope of verification is to verify the emission reductions claimed under the current

² The total crediting period is capped at the end date of the crediting period of the instance one as approved under the CDM mechanism (i.e. CPA ref. 31); which is verified in line with the para 3.9.7 of the VVS v4.7

monitoring period of the project considered from **21-April-2022 to 30-April-2024** (inclusive of both dates).

The criteria of this validation & verification activity included (a) validation of the group project's estimated emission reductions with the VCS requirements and (b) verification of the group project's actual emission reductions during monitoring period 21-April-2022 to 30-April-2024 as per VCS requirements.

The scope included number of parameters listed below:

- The project and its associated activities
- The baseline scenarios applicable to the project
- The GHG sources, sinks and/or reservoirs those are applicable to the project
- Physical infrastructure, activities, technologies and processes of the GHG project
- The types of GHGs that are applicable to the project
- The project crediting period
- The project first monitoring period
- Management activities
- Standard operating procedures
- Monitoring plan

The **criteria** included number of documents listed below:

- VCS Standard version 4.7/25/
- VCS Program Guide version 4.4/24/
- VCS Validation and Verification Manual Version 3.2/32/
- CDM AMS-II.G Version 9.0/28/

Unless stated otherwise, the assessment was conducted in accordance with the relevant VCS documents. The validation and verification scope of the project, along with the established scope and criteria, includes the following:

- To validate that the project is implemented as described in the VCS Joint PD & MR/1/.
- To evaluate the baseline scenario and the conditions prior to the initiation of project activity.
- To evaluate the project's adherence to relevant regulations, including the legislation of the host country (Madagascar).
- To validate the implementation and functionality of the monitoring system, ensuring the generation of Verified Carbon Units without any instances of double counting.
- To validate the accuracy, completeness, consistency, transparency, and absence of significant errors or omissions in the estimated data by examining monitoring records and emissions reduction calculations.

- To ensure that the actual monitoring systems and procedures align with those described in the monitoring plan.
- To assess the GHG emission reduction data and provide a conclusion regarding the absence of material misstatements.
- To validate and verify that reported GHG emission data is sufficiently supported by evidence.

1.3 Reasonableness of Assumptions and Level of Assurance

Following the requirements of VCS standard clause 4.1.2 (1) the independent assessment of the project by a VVB that determines whether the project and its GHG statement conforms with the VCS Program rules and evaluates methods that support a claim about the outcome of future activities should be “reasonableness of assumptions”.

In planning of the joint validation and verification, Assessment team took cognizance of clause 4.1.10 (4) of the “VCS Standard: Validation and Verification Process” version 4.7. *“The threshold for materiality with respect to the aggregate of errors, omissions, and misrepresentations relative to the total reported GHG emission reductions and/or removals shall be 5% for projects and 1% for large projects”*, as established for projects by the VCS Standard. Current project falls under “Large Project” category ($ERRs \geq 300,000 \text{ tCO}_2\text{e/year}$ i.e. $373,977 \text{ tCO}_2\text{e/year}$) hence materiality of 1% is applicable. For Verification reasonable level of assurance is achieved by verifying all GHG sinks, sources and GHG emissions equal to or greater than 1% of the total GHG assertions are considered. The project is expected to generated average GHG emission removal of $373,977 \text{ tCO}_2\text{e}$ per year and is subject to a 1% materiality threshold which is equal to $4,347 \text{ tCO}_2\text{e}$ (conservatively round-up). In this project scenario the project validity is confirmed by assessing the project area and conditions onsite.

These assumptions included in the project activity are but not limited to, the following aspects:

- 1. Project Boundary:** The ICS have been disseminated across several villages under different commune and fokontany across the districts Vohipeno and Manakara Atsimo, Mananjary, Ikongo, Ifanadiana and Nosy Varika under the region of Vatovavy Fitovinany, of Madagascar which forms the project boundary. The detailed project specific locations that form the overall boundary are relative to each instance and each ICS is registered in the distribution database for each instance. VVB team has assessed the ICS database during desk review and during the site visits through sampling and thus project boundary was reviewed and found correct.
- 2. Baseline Scenario:** The baseline scenario of the project activity is the usage of three stove firewood cookstove which are very less efficient and requires more firewood to cook food in the rural households of Madagascar. In the project scenario the ICS distributed have high efficiency and requires less wood, hence results in saving of firewood. The VVB team has accessed the baseline study reports applicable to each instance and same was further reviewed during the on-site visit via physical verification and direct interviews with the beneficiaries and stakeholders of the communities.
- 3. Applicability of the methodology:** The project meets all the applicability conditions as mentioned in the applied methodology AMS-II.G Version 9.0/28/.

4. **Leakage:** No leakage emissions are calculated but as per the applied methodology, 0.95 default factor is considered to calculate the GHG emissions, which is acceptable and in line with the methodological requirements
5. **GHG Emission Reductions and Removals:** The estimation of the net GHG emissions by distribution of ICS is attributable to the establishment of this project during the project's fixed crediting period of 10 years. Further the calculation used to determine the estimated net emissions is assessed completely by Assessment team. PP has submitted all input parameters required for ER calculation in line with the registered monitoring plan, followed by detailed calculations for each instance and results are presented.
6. **Others:** This particular group project is under gap validation scope of VCS. As the background, VVB team has reviewed that the 10 instances included under this grouped project were found to be 10 individual VCS project listed under VCS for gap validation from their individual status of registered CDM CPA. This transition from individual VCS projects (listed) to a Grouped Project (currently being validated & verified) was required as per VCS Standard v4.7 para 3.23.9 (2) because of the conditions that all these projects are under the same Project Proponent and project boundaries intersect within 10 km radius. VVB team has further reviewed that under CDM these project instances were numbered in between CPA #30 to #45 wherein sequentially the CPA #30 (i.e. VCS ID 2794) was listed first in VCS which is also the first CPA registered out of the 10 CPAs under CDM. Therefore, VVB team accepts the PP's decision to retain the VCS ID 2794 (i.e. CPA #30) and its title as the main project to be re-designated as "Grouped Project" in line with the VCS Standard 4.7 para 3.23.9 (2) where all other 9 projects considered as individual instances under this grouped project. Whereas, nomination of instances (i.e. Instance #1 to 10) has been done as per the definition & eligibility of group project instance as per VCS standard. Additionally, the remaining 9 projects have been withdrawn from VCS to remove their independent identity under VERRA (reference: withdrawal request letter to VERRA dated 06-February-2025); whereas they remain the instances under this Grouped Project.

As all the instances completed their public listing cycle under VERRA pipeline, therefore VVB team has considered this transition (i.e. from individual VCS project to a VCS Grouped project fulfilling the requirement of VCS standard v4.7) and hereinafter referred all these 10 instances as 'Grouped Project' activity with nomination of VCS project ID 2794.

The following individuals were part of the Validation & Verification Team as presented below:

Name	Qualification	Coverage of scope	Coverage of technical Area	Financial aspect	Host country Experience	Attendance to the Assessment (on-site)
Vivek Kumar Ahirwar	Lead Auditor (LA)	Yes (3)	Yes (3.1)	N/A	Yes	Yes
Vivek Kumar Ahirwar	Technical Expert (TE)	Yes (3)	Yes (3.1)	N/A	Yes	Yes

Simon Shen	Technical Reviewer (TR)	Yes (3)	Yes (3.1)	N/A	N/A	N/A
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1.4 Summary Description of the Project

This grouped project activity is a community-based project activity that implemented dissemination of the efficient improved cooking stove (ICS) which are woody biomass-based ICS implemented to the rural households of Madagascar, which has resulted in reduced firewood consumption leading to climate change mitigation in a sustainable manner. Overall objectives are reduction of greenhouse gases, conservation of forests and woodlands as well as improved health conditions of ICS users due to improved indoor air quality and to address some other associated sustainable developments for the communities. This helps to replace inefficient open firing practice which formed the baseline.

ICS are distributed free of cost to end-users. Korea Carbon Management Ltd. (KCM) financed the implementation of the Instances under the Grouped Project in full.

This project is designed as Grouped Project activity of 10 different Instances which were initially registered as 'Component Project Activity' (CPAs) of a "Programme of Activities" (PoA) registered under 'Clean Development Mechanism' (CDM) of UNFCCC-10443³ and also listed as individual project in VCS of VERRA; but were not taken up further for individual validation after the new rule update in VCS. Now the project has applied for VCS Joint validation and verification process under VCS with project ID VCS 2794 as the identity of the Grouped Project (due to 10km criteria as per clause 3.23.9(2)) that includes total of 10 Instances which were 10 different projects under VCS.

Till the end of first monitoring period i.e. on 30-April-2024, total 137,224 improved cookstoves have been distributed to the households across Madagascar under the 10 different instances of this grouped project.

The following 10 Instances and their corresponding CPAs & VCS ID with type of ICS disseminated and the implementation dates in sequential order: -

Instance Number	CPA Number and the VCS Project ID number allocated to them when they were listed for registration under VCS but they were not taken up as individual project and combined as a grouped project.	ICS Type	Implementation start date
Instance 1	CPA 31 (VCS 2795)	Portable ICS (SaoRehitra)	21-April-2022
Instance 2	CPA 33 (VCS 2797)	Portable ICS (SaoRehitra)	09-June-2022
Instance 3	CPA 35 (VCS 2799)	Portable ICS (SaoRehitra)	30-June-2022
Instance 4	CPA 37 (VCS 2801)	Portable ICS (SaoRehitra)	29-August-2022

³ https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/KUFLHQD3N8E5W2BIMRAVTGJX014S76/view

Instance 5	CPA 39 (VCS 2803)	Portable (SaoRehitra)	ICS	14-November-2022
Instance 6	CPA 41 (VCS 2805)	Portable (SaoRehitra)	ICS	19-December-2022
Instance 7	CPA 30 (VCS 2794)	Fixed (Lamasinina)	ICS	14-February-2023
Instance 8	CPA 43 (VCS 2807)	Portable (SaoRehitra)	ICS	17-April-2023
Instance 9	CPA 32 (VCS 2796)	Fixed (Lamasinina)	ICS	30-June-2023
Instance 10	CPA 45 (VCS 2809)	Portable (SaoRehitra)	ICS	17-July-2023

The ICS disseminated under this grouped project activity are of two types viz.

- (i) SoaRehitra portable ICS
- (ii) Lamasinina fixed ICS

Each project activity instance is fully implemented with a total of 13,752 and 13,604 numbers of households for Portable ICS (SaoRehitra) and Fixed ICS (Lamasinina) respectively which were covered under this grouped project. However, one project instance includes only one type of ICS under the project which makes each instance homogeneous in terms of ICS types and beneficiaries.

ICS have been distributed in rural communities with no previous ICS access. The geographical boundary of the Project Instances is within the national boundary of the host Country “Madagascar” and it was verified during desk review through Google Earth Pro software. The geo coordinates are also cross verified during onsite visit and location was found consistent with the data provided in project installation database/19/ and ER sheet/2/.

The scenario existing prior to the implementation of the project is the actual baseline scenario which is equal to the existing common practice in the region i.e. in absence of the project activity the equivalent amount of thermal energy generated using firewood in three stone open fires to meet the cooking energy demand. The project stoves have better efficiency compared to baseline cooking system i.e., open fire and therefore results in saving of firewood in comparison to baseline scenario.

Each project ICS included in the project activity has an end user agreement executed between end user and PP/6/. The project proponent for the project activity is Korea Carbon Management Ltd. and owns the rights to VCU as verified from the end user agreement /6/.

The latest version of approved VCS methodology AMS-II.G: Energy efficiency measures in thermal applications of non-renewable biomass Version 9.0/28/ has been applied to quantify the amount of greenhouse gas reductions achieved through this project.

As per the VCS Joint PD&MR/1/, the implementation of the project activity results in financial, social and environmental benefits. The estimated total GHG emission reduction is expected to be 4,346,229 tCO₂e during the fixed 10-year crediting period from 21-April-2022 to 29-February-2032 and the estimated annual average GHG reduction as 373,9774 tCO₂e. The PP has further estimated the annualized average based on actual remaining crediting period for each instance and results annualized average value is 409,025 tCO₂e (Details have been verified in ER sheet /2/ (Refer: TAB Ex-ante__Emission Reduction, CELL BL27 to BL39).

The estimated and annual average GHG emissions estimated by PP for each Instance is provided below:

Instances	Annual Average emission reduction (tCO ₂ e) (ex-ante)	Total emission reduction (tCO ₂ e) (ex-ante)
Instance 1	41,510	409,644
Instance 2	40,946	398,575
Instance 3	40,704	393,877
Instance 4	40,012	380,609
Instance 5	39,125	363,914
Instance 6	38,721	356,450
Instance 7	41,873	378,919
Instance 8	41,085	364,813
Instance 9	40,149	348,358
Instance 10	39,931	344,614
Total	404,056	3,739,774

The emission reductions achieved for first monitoring period from 21-April-2022 to 30-April-2024 (inclusive of both dates) for each Instance as verified from the Actual ERR calculation sheet/2/ and VCS Joint PD&MR/1/ submitted by PP is provided below in table:

Instances	Total emission reduction (tCO ₂ e) MP 01: 21-April-2022 to 30-April-2024 (inclusive of both dates) in (tCO ₂ e)
Instance 1	101,591
Instance 2	94,231
Instance 3	90,453
Instance 4	81,523
Instance 5	77,893
Instance 6	64,604
Instance 7	50,010
Instance 8	53,013

Instance 9	36,280
Instance 10	37,768
Total	692,366

2 VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

The validation and verification of the project was performed through a combination of document review, onsite visit and interviews with relevant personnel associated with the project activity. At all times, the project was assessed for conformance to the criteria. The findings raised were issued to ensure that the project was in full conformance to all the necessary project requirements as per the VCS standard version 4.7/25/. A project specific validation and verification plan was developed to guide the validation and verification auditing process to ensure efficiency and effectiveness. The purpose of the validation and verification is to present a risk assessment for determining the nature and extent of validation and verification procedures necessary to ensure the risk of auditing error to a reasonable level.

Keeping in line with ISO 14064-3:2019 & 14065:2020 (clause 09) Standard guidelines assessment team has framed down the process for completing the joint validation and verification and has followed the same throughout the execution of audit of the project activity. According to the ISO 14064-3:2019, the criteria are the policy, procedure or requirement used as reference against which evidence is compared. Therefore, Joint validation and verification of the project description and verification of the monitoring plan and the reported project results were measured for compliance against the following criteria:

- VCS Program Guide version 4.4/24/
- VCS Standard version 4.7/25/
- VCS Program Definitions Version 4.4/34/
- VCS validation and verification manual version 3.2/32/
- AMS-II.G: Energy efficiency measures in thermal applications of non-renewable biomass; Version 9.0/28/
- Methodological tools:
 - i. CDM TOOL30- Calculation of the fraction of non-renewable biomass” Version 04 /29/
 - ii. CDM TOOL 33- Default values for common parameters version 2.0 /36/

The key Project information reviewed can be summarized as follow:

- Project Monitoring plan, Monitoring procedures, Monitoring Team & Equipment
- Risk to local stakeholders
- Additionality assessment

- Baseline scenario & project scenario
- Ex-ante Quantification of emission reductions or removals
- Review of operation and measurement records
- Controls established to detect and correct any changes required
- Errors of omission in monitoring parameters

Sampling approaches have been utilized by PP as per the provision of the sampling monitoring plan and VVB has also considered sampling approach during this joint validation and verification.

As per the provision of the registered PoA (#10443), PoA level sampling was prescribed for CPAs. Since the specific CPAs are now considered as instances under the Grouped project activity, hence the sampling is considered at group level for all the 10 instances covered under a particular Monitoring Period. Therefore, the sampling monitoring approach has been adopted at Group level covering all the 10 Instances under single sampling frame.

As per the provision of the Sampling Guidelines (more details given below), a detailed sampling survey has been conducted during the month of May 2024. This sampling survey is applicable to the current monitoring period and the same sampling survey has been referred for this project activity for the purpose of all the monitoring parameters attributed to the Sampling Monitoring plan.

The monitoring plan is designed to monitor the parameters listed in Section 4.2 “Data & parameters monitored” of VCS Joint /1/&MR, which are required for calculation of the actual GHG emission reduction achieved by the Instance using ex post sampling survey. The share of operating stoves and the continued use of pre-project devices will be determined based on sampling procedures as outlined below. The PP is responsible for conducting the sampling surveys and maintaining a database with all operating stoves.

No monitoring for leakage through competitive uses of biomass is required, as the parameter $B_{d,i,j}$ is multiplied by 95% to account for leakage.

The sampling plan is as follows in the VCS Joint PD&MR/1/:

Sampling design;

Representative sampling is undertaken as part of the Sampling Plan (however by grouping and sampling across all the beneficiaries under each CPA Project Instance) that is designed in line with the requirements of the “Sampling and surveys for CDM project activities and programme of activities”, version 04.

- Objective and Reliability Requirements:** The objective is to obtain an unbiased and reliable estimate of the proportion or mean value of the following key variables over the course of the monitoring period. As per Sampling Standard/23/, parameter values shall be estimated by sampling in accordance with the requirements in the applied CDM methodologies separately and independently for each of the CPAs Instances included in the Group except when a single sampling plan covering a group of instances CPAs is

undertaken applying 95/10- confidence/precision for the sample size calculation. This is consistent with the approach in the approved methodology to aim at higher confidence/precision when the sampling/survey effort is undertaken less frequently.

In cases where survey results indicate that 90/10 precision or 95/10 precision are not achieved, the lower bound of the 90 per cent or 95 per cent confidence interval of the parameter value may be chosen as an alternative to repeating the survey efforts to achieve the 90/10 or 95/10 precision). The project activity has been treated as single frame and 95/10 confidence/precision has been considered for a biennial sampling.

Monitored Parameter:

$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y
$\mu_{y,i}$	Adjustment to account for any continued use of pre-pre-project devices during the year y

ii) Target Populations:

The target population for the proportion of ICS still in operation ($N_{y,i,j}$) of this POA are all households in the POA database which are using fuel wood in ICS distributed under the POA for cooking.

The target population for pre-project appliances ($\mu_{y,i,j}$) is the set of old stoves still in use under CPAs database.

iii) Sampling Frame

As per the registered PoA-DD and CPA-DD, referring to the “Sampling Frame” it can be checked that there were two sampling frames prescribed to ensure the homogeneity of the CPAs included for a single sampling plan. The Sampling was conducted at POA-level by grouping the targeted CPAs, based on two separate frames for two different types of ICS models. In line with the same, a single sampling frame has been considered which is applicable for both the parameters:

- I. proportion of ICS in operation ($N_{y,i,j}$)
- II. Adjustment to account for any continued use of pre-project devices during the year ($\mu_{y,i,j}$)

Sampling frame for proportion of ICS in operation ($N_{y,i,j}$):

The sample frame refers to all the information sources on the Database. There are two primary mechanisms for data collection: the Registration Process for newly distributed/installed ICS and the Monitoring Survey (which includes a household questionnaire and visual inspection of ICSs) that will be used throughout the lifetime of the programme PoA. The detailed information collected from Registration Process is used to populate the stoves Database and the Monitoring Survey follows “Sampling and Surveys for CDM Project Activities and Programme of Activities”, version 04.

Applied methodology indicates that all monitoring requirements of AMS-II.G. must be followed. Therefore, in line with applied approved methodology AMS-II.G, as installing data logger is not practical and if any use of pre project devise can be monitored in a common survey with other monitoring parameters; therefore, a random sub-sample within the common survey can be taken

to determine continued use of old cookstoves and its proportional usage by including suitable questionnaire.

There will be two situations:

- 1) project ICS are completely discarded
- 2) the old stoves used along with project ICS.

Hence in first case it will be simple multiplication of fraction of total number of project ICS displaced by old cookstoves by total number of cookstoves in CPA, to achieve precise results based on survey result sample size calculation can be repeated.

However, for second case, surveys may be conducted if the use of data loggers to record the continued operation of baseline devices is demonstrated to be not practical, for example when the baseline device is the three-stone fire. The surveys should be designed to capture the cooking habits and stove usage of households in the region, including quantification of use of baseline devices, by formulating questions and/or collecting evidences to determine the frequency of usage of both the project devices and baseline devices. For example, if there were 3 pre-project devices per household and it was determined during the survey that use of one of them continues during the crediting period then a conservative adjustment factor of 0.66 is applied for the relevant monitoring period. Another example would be the case where there was only one pre-project device per household and its use during the project period continues along with the project stove to meet 25% of the cooking needs of the household in which case the adjustment factor will be 0.75. Where a more precise data is available i.e. the thermal capacity of the project and pre-project devices and respective utilization hours, a weighted average adjustment factor may be used.

iv) Sampling Method

The sampling method for monitored parameters $N_{y,i,j}$ and $\mu_{y,i,j}$ is Simple Random Sampling and samples will be randomly selected from the primary sampling units as illustrated above. To ensure a random selection of ICS, random number generators shall be applied. Each ICS in the target population is uniquely identifiable by its unique ID number. Each ICS can thus be allocated a Sample Selection Number in each monitoring period, starting at 1 and increasing up to the total number of ICS in the Database for that pre-defined sampling frame. Applying the random number generators, the ICS can then be randomly chosen from the defined population up to the required sample size as calculated by the PP.

To determine the parameters, sampling will involve the following approaches (outcome in brackets):

$N_{y,i,j}$: Visual inspection of the premises to see if ICS is operational and in use. Interview with end user if required to verify that ICS is still in use (Yes/No)

$\mu_{y,i,j}$: Pre project device only is in use then fraction to be used to calculate total number, however if pre project device is used along with project ICS, proportion of usage of each will be determined by cooking habits evaluated by survey questionnaire during the monitoring period.

Using the formulas in the section “Sample Size” below, the PP will randomly sample the required number of ICS from the primary sampling units. It is important to note that for $\mu_{y,i,j}$ where partial

usage of both old stoves and project ICS are observed, for each household under sample cooking habits must be taken into consideration.

v) Sample size

For the estimation of the proportion or mean value of the parameters investigated, the minimum sample size for each sample frame has to achieve the 95/10 confidence/precision for biennial and 90/10 confidence/precision for annual sampling.

The procedure to determine the sample of households will ensure that they adequately represent the broader project population, minimizing sampling error. Using, a 95 percent confidence level, and a 10 percent margin of error, random samples will be selected from each the Primary Sampling Unit. There are two parameters that will be estimated through sampling: the number of stoves still in operation during the monitoring period as determined by the monitoring survey ($N_{y,i,j}$), and the continued use of old stoves, ($\mu_{y,i,j}$).

In line with AMS-II.G version 09.0, both the parameters can be sampled in a single survey with a random sample of households using the above described confidence/precision levels depending on annual or biennial monitoring frequency. Since both the parameters $N_{y,i,j}$ and $\mu_{y,i,j}$ requires results and application in proportion/percentage, therefore sample size consideration is prescribed as 'proportion value parameter' for sampling.

As per registered sampling plan, in line with Guidelines for Sampling and surveys for CDM project activities and programmes of activities, version 07.0/22/ Appendix 1 paragraph 5, there are different ways available to obtain the estimates of the parameter of interest:

- Refer to the result of previous studies and use these results;
- In a situation where information from previous studies is not available, a preliminary sample as a pilot could be conducted and use that sample is used to provide the estimates;
- Use best guesses based on the researcher's own experiences.

PP has access to previous studies of sampling as there were sampling surveys conducted at PoA level. However, for the current grouped project, being the joint validation & verification, PP has decided to conduct a primary sampling survey at Group level by adopting a minimum required sample number. For the first monitoring period, values from a pilot shall be applied. For the following monitoring periods, the estimates shall be adjusted taken into account the results of the previous monitoring period(s) or the result from recent sample survey, which is conducted after the previous monitoring periods. Since the current monitoring period falls under the applicability period of the biennial sampling conducted previously and also during May 2024; hence here both the options (a) and (b) can be referred.

Thus, continuing with the new sampling survey for applying into the current monitoring period. both the sampling parameters considered based on 'proportion value', hence to estimate the sample size for parameters $N_{y,i,j}$ and $\mu_{y,i,j}$ the following equation is used:

$$n \geq \frac{1.96^2 N \times p (1 - p)}{(N - 1) \times 0.1^2 \times p^2 + 1.96^2 \times p (1 - p)}$$

Where:

n = Sample size

N = Population size (Total number of households/ICS)

p = Expected proportion

1.96 = Represents the 95% confidence required (In the case of 90% confidence, 1.645 shall be used)

0.1 = Represents the 10% relative precision

The following assumptions are made to exemplify the sample size calculation for parameters: $N_{y,i,j}$ and $\mu_{y,i,j}$.

PP distributed 13,752 and 13,604 ICS for Portable ICS (SaoRehitra) and Fixed ICS (Lamasinina) respectively under the current project activity. Hence, population size, N , is taken as 137,224 households/ICS.

It is expected at least 90% of ICS will be operational, hence the expected proportion p for $N_{y,i,j}$ is taken as 0.9.

Sample size calculation:

The calculation of the required sample size for both the parameters in the first monitoring period is illustrated below considering a 95/10 level of confidence and precision (i.e. for biennial monitoring). In all cases a conservative approach is taken, however if for any parameter the required 95/10 confidence/precision is not met then the PP will randomly select an additional sample and collect further data from this sample to ensure the pooled data meet or exceed the required thresholds. Thus, oversampling can also be considered by PP while calculating the sample size.

Alternatively, as per the provision of Sampling Standard the lower bound or the upper bound (whichever is conservative) of the 90 percent or 95 percent confidence interval of the parameter value may be chosen.

For both the Parameter $N_{y,i,j}$ and $\mu_{y,i,j}$: based on the above assumptions, the resulting sampling size for a 95/10 confidence/precision is calculated as:

For Sampling Frame 1 (i.e. instances with SoaRehitra ICS):

$$n \geq \frac{1.96^2 \times 110,016 \times 0.9 (1 - 0.9)}{(110,016 - 1) \times 0.1^2 \times 0.9^2 + 1.96^2 \times 0.9 (1 - 0.9)}$$

Which comes out to be $n \geq 42.67$

$n = 43$

As per the sampling requirements, in case the resulting sample size to achieve the desired confidence/precision levels is smaller than 30 ICS, a minimum sample size of 30 shall be chosen

when the parameter of interest is a proportion and $n=43$ which is higher than 30 ICS, hence appropriate. This has been checked in Sampling survey sheet and the PP has provided screen shot for ready reference in MR, which is found to be correct and hence accepted.

For Sampling Frame 2 (i.e. instances with Lamasinina ICS):

$$n \geq \frac{1.96^2 \times 27,208 \times 0.9 (1 - 0.9)}{(27,208 - 1) \times 0.1^2 \times 0.9^2 + 1.96^2 \times 0.9 (1 - 0.9)}$$

Which comes out to be $n \geq 42.62$

$n = 43$

As per the sampling requirements, in case the resulting sample size to achieve the desired confidence/precision levels is smaller than 30 ICS, a minimum sample size of 30 shall be chosen when the parameter of interest is a proportion and $n=43$ which is higher than 30 ICS, hence appropriate. This has been checked in Sampling survey sheet and the PP has provided screen shot for ready reference in MR, which is found to be correct and hence accepted.

Therefore, PP has calculated this minimum required sample size number separately for the two sampling units: for instances with SaoRehitra ICS and Instances with Lamasinina ICS. As the sampling activity is applied at group level, therefore total sample size considered as 86 (43+43).

Therefore, in this case a minimum sample size of 86 is to be sampled from each primary sampling unit for both the parameters.

Other provisions:

PP may choose to use the same samples to monitor more than one parameter, this is because parameters have same units (i.e. proportion/fraction). Sampling more than one parameter within the same sample (household) helps reduce travel needs for monitoring and the associated costs. At the same time this approach ensures the random selection of samples for every parameter. Similarly, oversampling is strongly encouraged, not only to compensate for any attrition, outliers or nonresponse associated with the sample, but also to prevent a situation at the analysis stage where the required reliability is not achieved and additional sampling efforts would be required.

Thus, the sample size shown above will be adjusted upwards to account for any situational non-responses (such as absence of respondent on the day of visit, medical urgency, climatic condition etc.). Here PP may determine the appropriate non-responses rate based on previous experience or based on the local conditions at the time of such sampling survey. In this regard, oversampling is considered as part of the registered monitoring plan. However, based on prior experience of sampling it has been realized by PP that responses from min. required samples are generally achievable. Hence, oversampling may not be a mandatory requirement; but as part of standard sampling practice followed by PP additional samples are considered as over samples in the sample size under this project.

Final Sample size considered for the 1st Monitoring Period (with consideration of oversampling):

n (final) = 120

Outcome:

Both the parameters $N_{y,i,j}$ and $\mu_{y,i,j}$ have been selected across the minimum required and randomly selected 120 samples, as stated above. Similarly, in order to pre-define the samples, the online randomizer was used to randomly select samples. All these selected samples were recorded (screenshots of the online randomizer) at the time of sample selection and same are reported under the sampling result sheets for cross check.

Thus, the particular parameters were surveyed and tested based on the above sample size and selected randomly from the stove database, hence PP had interviewed all sampled households to check for the fraction of operational ICS ($N_{y,i,j}$) and the presence of baseline devices & there any probable usage (i.e. additional check for the parameter $\mu_{y,i,j}$ for backup reference purposes). Thus, for these two monitoring survey parameters ($N_{y,i,j}$ & $\mu_{y,i,j}$), data collection was done for total 120 randomly selected samples. Subsequently, results are calculated and presented for the parameters. The results are further treated via sampling equations to confirm Reliability Check and presented for each parameter in line with the sampling method and sample size estimated.

The detail calculation, sample equations, results, etc. are submitted in final Sampling Survey Data & Calculation sheet (titled as “*Household Sampling Surveyed (10 CPAs CPA 30 to 45)___Updated*”). The summary of the sampling results and formulae used calculation and reliability check etc. are also included in the Appendix 2 of PD/MR which can be further cross checked from the sample survey sheet, records of survey, sampling forms etc.

Other elements of monitoring plan:

The Monitoring Plan applied in this PoA involves a number of key elements that ensure that the PP have high-quality, unbiased and reliable information regarding the performance of the project in terms of implementation and outcomes, and for the purposes of calculating Emission Reductions following AMS-II.G. version 09.0 on the basis of the amount of non-renewable biomass saved by the ICS in the project activity. The key elements are the following:

- Project database management
- Spot Checks of ICS
- Sample Plan for the Monitoring Survey
- Data Quality, Consistency and Duplication Checks
- Monitoring Reporting

Project Database Management:

The information collected by the local representative team of PP will be stored both as primary record and in the electronic database which will be available with PP and it will be updated on ongoing basis by trained staff. The database will be sortable by the information collected as per Registration Process and will be made available to the VVB at verification. The PP will verify accuracy and completeness and confirm that there is no double entry of serial numbers in the database. The implementing team will identify any discrepancy and the correct information will be entered into the database.

There are two possible replacement cases:

- (a) replacement due to any damage,
- (b) replacement end the end of operational life of the ICS.

In case a replacement stove is being issued to a customer already registered on the project database (example: case (a)), a new registration will not be required. The replacement stove will be recorded in the project database/12/ in such a way that it is clear that the replaced stove ceases to be included in the Instance; and the replacement stove is associated with the customer's details as a replaced stove. In case of new stove which is given as replacement at the end of life of the current ICS (e.g. case (b)), the same is included in the Instance as a new stove with a new serial number and will be treated as re-distribution.

All technical staff responsible for installation and maintenance of the stoves will be trained in terms of the understanding the requirements of VCS on the monitoring system. The technical, operational and maintenance trainings provided for the personnel will be described in each monitoring report.

Spot Checks of ICS Installed:

Trained field staff (generally termed as "Local Agents") will continually randomly select households included in the database and visit them to cross-check the information on the database with the factual evidence in the field. Any inconsistencies found (e.g. change in the address of a user) will be updated on the database, and in the case, ICSs are found to be no longer in use, they will be clearly marked as such and excluded from emission reductions calculations. The spot check will be performed during first year of operation of the Instances, wherein for each Instance random selection of household will be done through central database system, afterwards a team will visit to each household selected and will confirm the information as per registered database. In case any change in information the same will be updated and an action will be decided based on changes observed. These spot checks will also be used as part of sample required establishing the ICS in operation and if any use of pre-project devices along with ICS.

Such spot-check monitoring practice is recorded in particular format and same will serve the purpose of evidence as well as the backup reference supporting the outcome of the parameter μ during sampling surveys.

Development of the Validation and Verification Sampling Plan:

The assessment team has formally documented its Validation and Verification Sampling plan based on key elements of the validation and verification process as per the criteria of engagement. The plan identifies and addresses the following:

- a) Level of Assurance
- b) Materiality
- c) Standards of evaluation & reporting for the validation and verification including the assessment criteria
- d) Scope and objectives
- e) Assessment team and the roles of team members
- f) Schedule of validation and verification activities

Sampling Plan-

To ensure a thorough, transparent, and timely execution of the assessment, a detailed plan outlining all the necessary steps to reach a well-supported final conclusion is drafted. This systematic and organized approach ensures that no critical elements are missed or overlooked. Along with this structured process, the team has also consulted the applied methodology/28/, the CDM sampling guideline/22/, and the CDM standard/23/. These documents provide essential guidance for collecting and analysing the required data, ensuring the assessment's accuracy and effectiveness. This method ensures that all relevant factors are considered, and the assessment is conducted rigorously and objectively

Due to distribution of large amount of ICS distribution, it is unreasonable to undertake an individual assessment of each ICS, hence VVB has documented and explained the sampling methods employed for the joint validation and verification of such ICS.

☐	No sampling approach has been used by the VVB to verify the project's compliance with SD Vista requirements.
☒	A sampling approach has been applied by the VVB to verify the project's compliance with VCS requirements for the aspects discussed above. The statistical approach of sample size (i.e., 18) calculation is provided below.

AS: Acceptance Sampling

Assessment team has applied acceptance sampling approach for the onsite interviews as part of assessment in accordance with the paragraph 26 of the Standard for verification: Sampling and surveys for CDM project activities and programmes of activities, Version 9.0 /16/. Assessment team has opted for **AQL of 1 %** and **UQL of 20%; producer risk of 10% and consumer risk of 10%** as per VVBs professional judgement based on CDM Guidance para 39 (c), which is "if the VPA/CPA is located in a least developed country, then greater producer/consumer risk (maximum allowed is 20%) will be applied". the producer risk chosen by VVB is 10% and consumer risk is 10% which is in line with the standard requirement as per **para 30** and **para 39** of Standard: hence the **sample size of 18 ICS with acceptance number (c) as 1 is determined**.

The sampling plan implemented by PP is in accordance with the applied monitoring methodology /28/ and the VCS Joint PD &MR/1/. The PP has appropriately performed representative sampling

procedure, reliability levels were set at 95% confidence and 10% precision in line with the applied methodology /28/.

The figure below shows the Sample size and acceptance number based on AQL of 1 %, UQL of 20%, and producer risk of 10% and consumer risk of 10% as per CDM Sampling and Survey Standard version 09.0/23/ selected for this project activity:

Producer risk		5%		5%		5%		5%	
Consumer risk		5%		10%		15%		20%	
AQL	UQL	Sample size (n)	Acceptance number (c)	Sample size (n)	Acceptance number (c)	Sample size (n)	Acceptance number (c)	Sample size (n)	Acceptance number (c)
0.5%	10%	46	1	38	1	33	1	29	1
0.5%	15%	30	1	25	1	22	1	10	0
0.5%	20%	22	1	18	1	9	0	8	0
1.0%	10%	61	2	52	2	33	1	29	1
1.0%	15%	30	1	25	1	22	1	19	1
1.0%	20%	22	1	18	1	16	1	14	1
Producer risk		10%		10%		10%		10%	
Consumer risk		5%		10%		15%		20%	
AQL	UQL	Sample size (n)	Acceptance number (c)	Sample size (n)	Acceptance number (c)	Sample size (n)	Acceptance number (c)	Sample size (n)	Acceptance number (c)
0.5%	10%	46	1	38	1	19	0	16	0
0.5%	15%	19	0	15	0	12	0	10	0
0.5%	20%	14	0	11	0	9	0	8	0
1.0%	10%	46	1	38	1	33	1	29	1
1.0%	15%	30	1	25	1	22	1	10	0
1.0%	20%	22	1	18	1	9	0	8	0

The assessment team selected 18 ICS random samples from PP's sampling survey list by using randomizer and a sample list of 18 ICS was prepared which were verified during onsite visit by assessment team for joint validation and verification purpose.

During the site visit of the selected ICS samples the following details were verified through a questionnaire used by VVB which includes and confirms the following details- The stoves details (unique serial number, date of installation, type of ICS, name of user and address), installation date, any baseline stove in use and the grievances or problems faced any due to the implementation of the project activity in the region. Assessment team found that all 18 ICS samples were using the ICS and they were with the cookstove and regular feedback is taken and trainings are provided to maintain the ICS and its use. The dates were cross-checked and found to be consistent with that reported in the installation database. No inconsistency was observed in any of the 18 samples with respect to on-site inspection & document review. Hence it is verified that the results of all the ex-ante and ex-post monitored parameters which determined based on the sampling methods are verified as reasonable and acceptable.

2.2 Document Review

The validation and verification process were performed by taking into account document assessment submitted by PP. It was reviewed against the approved methodology and against other VCS requirements. Additional background documents related to the project design, baseline and additionality, ex ante and monitoring data and parameters, and quantification of GHG emission reductions were also made available before and during the physical audit process. Documents review was conducted to ensure consistency with and identify any deviation from VCS program requirements.

Furthermore, the validation and verification team used additional documentation by third parties like host party legislation, technical reports referring to the project design details, baseline scenario, additionality, monitoring and technical data and other documents which were also required for completing the assessment which were provided by PP and those are listed in Appendix-2 of this report.

2.3 Interviews

Applus+ Certification assessment team has performed an onsite audit from 27-May-2024 to 30-May-2024 to assess the project and interview PP along with local agents and other stakeholders including the selected 18 sampled households for joint validation and verification. During the audit, VVB team took interviews of PP, field officers and local stakeholders as listed in the table below on the topics discussed in the table.

Table lists down the persons interviewed during onsite visit:

S. No.	Name	Organization Affiliated	Date	Topic of Discussion	Team Member
1	Deepjyoti Borah	WeAct Pty Ltd. (Sr. Advisor)	27-May-2024	- Description of the project activity, ownership, avoidance of double counting. - Implementation, monitoring and responsibility distribution in the organization.	Vivek Kumar Ahirwar

2	Tiana A. Manantosa	NGO Tandavanala (General Manager)		- Emission reductions calculation approach and sampling techniques - How end users are identified and awareness campaigns by PP - Monitoring plan and monitoring arrangements - Data recording, QA/QC procedures. - ICS operational status, commissioning details, project investment etc. - Training schedule for the monitoring officers and local agents to maintain ICS, Spot-checking mechanism. - Documentation records and other benefits of the project to community. - Grievance redressal mechanism followed by PP for the project activity.	
3	Ramtarihariso a Faniry A.	NGO Tandavanala (Project Manager)			
4	Andriatafika Zo Emmquuil	NGO Tandavanala (Monitoring Officer)			
5	Rivoalimanitra Miona	NGO Tandavanala (Senior Monitoring and Evaluation)			

Table lists down the Personnel Interview/Focused Group Discussion with Implementing field officers and local agent interviewed during onsite visit:

S. No.	Name	Organization Affiliated	Date	Topic of Discussion	Team member
1	Andriaminasa Maholison Oliver	NGO Tandavanala (Local Agent)	27-May-2024	Implementation, monitoring and distribution of ICS.	Vivek Kumar Ahirwar

2	Ravioarisoa Flaire Feaniet	Local Villager		- How end users are identified and awareness campaigns by PP - Monitoring plan and monitoring arrangements - ICS operational status, QA/QC procedures - Training schedule for the monitoring officers and local agents, Spot-checking mechanism. - Any other benefits of the project to community. - Grievance redressal mechanism confirmation.	
3	Rikotonanirori ava Robert	NGO Tandavanala (Local Agent)			
4	Soloniaina Sitnaba Naval	NGO Tandavanala (Local Agent)			
5	Rahotomamon jy Tantelinarivo Dionjrio	NGO Tandavanala (Local Agent)			
6	Ramiandrisoa N Eugene Marallin	NGO Tandavanala (Local Agent)	28- May- 2024		
7	Romain Pascal	NGO Tandavanala (Local Agent)			
8	Rafanomezant soa Aubert Bernardin	NGO Tandavanala (Distribution Officer)			
9	Ravotoloniaina Juliette	NGO Tandavanala (Distribution Officer)			
10	Maminiaina Joandrainy Felantron	NGO Tandavanala (Local Agent)			
11	Talaya Varl Dyrnot	NGO Tandavanala (Local Agent)	29- May- 2024		

12	Famomezants oa Eric	NGO Tandavanala (Local Agent)		
13	Raharivonona Chautale	NGO Tandavanala (Local Agent)		
14	Tsiresy Jean de la Victoir	NGO Tandavanala (Monitoring Officer)		
15	Pierre Percele	NGO Tandavanala (Local Agent)		
16	Rasamimanan a Berkley Jean Honore	NGO Tandavanala (Local Agent)	30- May- 2024	
17	Rajoroarisoa Jean Lethitren	NGO Tandavanala (Distribution Officer)		
18	Rahelitiana Viviane	NGO Tandavanala (Local Agent)		
19	Soavinirina Manakavana Laorette	NGO Tandavanala (Local Agent)		
20	Ratsimanahy Belson Egny	NGO Tandavanala (Local Agent)		
21	Bebinirina Heronisoa dynda	NGO Tandavanala (Local Agent)		
22	Razafindrabab a Philemon	NGO Tandavanala		

		(Local Agent)			
23	Zasoanantena isoa Maritlitsy Siary	NGO Tandavanala (Local Agent)			

Table lists down the ICS Beneficiary interviewed during onsite visit:

S. No.	Name	Instance Ref. & Stove ID	Date	Topic of Discussion	Team member
1	Rasoarivelo Nirina Rosette Veronique	Instance: 01 (CPA Ref. 31, VCS ID 2795) ID: 22SRW31-02064	27-May-2024	- Number of project devices under operation at the site - End-user agreements and their terms - To confirm any baseline cookstove usage. - Grievance redressal mechanism - To check the baseline scenario - Understanding of communication methods and nature of spot checks and regular visits done by local agents etc.	Vivek Kumar Ahirwar
2	Rakotonirina Jean	Instance: 01 (CPA Ref. 31, VCS ID 2795) ID: 22SRW31-03707	27-May-2024		
3	Voahanginirina Salia	Instance: 02 (CPA Ref. 33, VCS ID 2797) ID: 22SRW33-06834	29-May-2024		
4	Botovelo Josephat Michel	Instance: 02 (CPA Ref. 33, VCS ID 2797) ID: 22SRW33-08843	29-May-2024		
5	Soanjara Marie Madeleine	Instance: 03 (CPA Ref. 35, VCS ID 2799) ID: 22SRW35-08147	28-May-2024		
6	Raharinirina Niciane Robertine	Instance: 03 (CPA Ref. 35, VCS ID 2799) ID: 22SRW35-08847	28-May-2024		
7	Landrie	Instance: 04 (CPA Ref. 37, VCS ID 2801) ID: 22SRW37-00711	30-May-2024		
8	Rasoanandrasa na Emilienne	Instance: 04 (CPA Ref. 37, VCS ID 2801)	30-May-2024		

		ID: 22SRW37-04940			
9	Andrianjaka Nomenjanahary Jean Jacques	Instance: 05 (CPA Ref. 39, VCS ID 2803) ID: 22SRW39-11923	27-May- 2024		
10	Hanitra Nomenjanahary Raveloarison	Instance: 05 (CPA Ref. 39, VCS ID 2803) ID: 22SRW39-12868	27-May- 2024		
11	Ravololoniaina Elysa	Instance: 06 (CPA Ref. 41, VCS ID 2805) ID: 22SRW41-08223	28-May- 2024		
12	Christine	Instance: 06 (CPA Ref. 41, VCS ID 2805) ID: 22SRW41-08688	28-May- 2024		
13	Ravoniarisoa Saholinirina Sabine	Instance: 07 (CPA Ref. 30, VCS ID 2794) ID: 23LW30-06872	30-May- 2024		
14	Raharimalala Alice	Instance: 07 (CPA Ref. 30, VCS ID 2794) ID: 23LW30-02710	30-May- 2024		
15	Rakotoarivelo Tolojanahary Augustin	Instance: 09 (CPA Ref. 32, VCS ID 2796) ID: 23LW32-01513	30-May- 2024		
16	Randrianantena ina Herindrainy Richard	Instance: 09 (CPA Ref. 32, VCS ID 2796) ID: 23LW32-00674	30-May- 2024		
17	Ratsarasoa Germaine	Instance: 08 (CPA Ref. 43, VCS ID 2807) ID: 23SRW43-11964	29-May- 2024		
18	Andrianatoandr o Heriniaina Jean Samy	Instance: 10 (CPA Ref. 45, VCS ID 2809) ID: 23SRW45-06271	29-May- 2024		

2.4 Site Visits

The on-site visit for joint validation and verification was conducted from **27-May-2024 to 30-May-2024**. Assessment team did the ground inspection of the project which included the office visit, project area and site visits to the households of selected 18 samples in total and checked their ICS during the above-mentioned dates.

The objectives of the on-site inspections performed were to:

- Select samples of data and information from field observations in order to meet a reasonableness of assumptions and to meet the materiality requirements of the project as required by the VCS Standard/25/.
- Perform a risk-based review of the project area and project activities to ensure that the project conforms to the validation and verification criteria.

Methods employed were:

- Physical site inspection of selected 18 samples from 27-May-2024 to 30-May-2024 selected randomly from VVB's sampling survey. Here, acceptance sampling was considered with 18 samples were visited during the site visit.
- Documents review and cross-checks between the information provided in the VCS Joint PD&MR/1/ and supporting information and evidence provided by PP.
- Review, based on the selected methodology, tools and the other applied methodological regulatory documents, of the appropriateness of formulae and accuracy of calculations.
- Interviews with relevant stakeholders, implementation partners and personnel responsible for the implementation of project activities as described in section 2.3 above and the elaboration of project documents.

Cross-checks between information provided by interviewees to ensure that no such relevant information is omitted during the site visit. A project specific sampling plan was developed to guide the validation and verification auditing process to ensure efficiency and effectiveness. The purpose of the sampling plan was to present a risk assessment for determining the nature and extent of the validation process and procedures necessary to ensure the risk of auditing error was reduced to a reasonable level.

2.5 Resolution of Findings

The objective of this phase of joint validation and verification is to resolve any outstanding issues which need to be provided by PP for positive conclusion on the VCS Joint PD&MR/1/. The Material discrepancies identified in the course of the validation and verification are addressed either as CARs, CLs or FARs.

A corrective action request (CAR) is raised if one of the following occurs:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;

- Mistakes have been made in applying assumptions, data or calculations of emissions reductions that will impair the estimate of emission reductions;
- Applicable methodological specific requirements have not been met

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

A forward action request (FAR) is also raised in cases where any required deviation/information is not fulfilled in current validation and thus needs to be taken up in consequent verification for better transparency thus holding the applicability of the methodology eligible to the project activity and there is no impact of the same on additionality, baseline scenario & emission reduction calculation of project.

In the context of FARs, risks have been identified, which may endanger the delivery of high-quality GHG removals in the future, i.e., by deviations from standard procedures as defined by the MP. Therefore, such aspects should receive a special focus during the consecutive verification. A FAR may originate from lack of data sustaining claimed GHG removals

In summary, **02 CARs, 03 CLs and 00 FARs** were raised during this joint validation and verification which are closed as of now as the response from client is received and details are given under Appendix 3 of this report.

2.5.1 Forward Action Requests

Based on the assessment of the responses provided by PP no forward action requests have been raised by Validation and verification team during current Joint validation and verification that needs further attention in subsequent verification.

3 VALIDATION FINDINGS

3.1 Project Details

Item	Evidence gathering activities, evidence checked, and assessment conclusion			
Audit history	Audit type	Period	Program	Number of years
	CDM Validation & CPA (30, 31, 32, 33, 35, 37, 39, 41, 43, 45) Inclusion	20-December-2021	CDM	-
	VCS Verification I (Joint Validation & Verification)	21-April-2022 to 30-April-2024	VCS	2 Years 00 Months 11 days
Sectoral scope	Sectoral Scope:3, Energy Demand As per the VCS Joint PD&MR/1/ submitted and cross verification with the VERRA Project webpage the project scope is found to be correct.			
AFOLU project category, if applicable	Not Applicable			
Project activity type	This is a grouped project as verified from the VCS Joint PD&MR/1/ submitted by PP.			
General eligibility of the project to participate in the VCS Program	The project falls under Scope 3- Energy Demand which involved distribution of ICS to rural households in Madagascar and not included in the table 1 (Excluded Project Activities) under section 2.1 of VCS Standard version 4.7. Hence, the project is eligible to participate in the VCS program.			

- According to the requirements under clause 3.8.1 of VCS Standard version 4.7 the project is fulfilling the guidelines. The project start date is 21-April-2022 as per VCS Joint PD&MR submitted and same was verified from the project database/12/ submitted by PP. The pipeline listing has been completed within two years of the project start date.

As per clause 4.1.5 of VCS Standard “the VVB shall ensure that the project is listed on the project pipeline with a status of under validation before the opening meeting with the project proponent” which is followed by VVB and project was under validation status as confirmed from the project webpage of VCS. Also, the public comment period of the project was over at the time of onsite audit of the project since the public comment period was from 22-June-2022 to 22-July-2022 (as verified from VERRA webpage) and the site visit happened from 27-May-2024 to 30-May-2024, hence this requirement was fulfilled.

- PP has applied VCS Methodology- AMS-II.G- Energy efficiency measures in thermal applications of non-renewable biomass - Version 9.0 which is an approved methodology for the VCS projects and VERRA has approved the usage of this methodology. Hence this condition is also applicable. The aggregate energy savings of a single project activity (instance) shall not exceed the equivalent of 60 GWh per year or 180 GWh thermal per year in fuel input which is less than 180 GWh(th) per year for both types of ICS. As per the requirements under 3.10.3 for the fragmented part of a larger project or activity that would otherwise exceed such limits, this project is not a part of any large project and VVB has independently assessed the VERRA Registry for similar projects within 2 Kms and other registries also which confirms that this is not a part of any fragmented part of any large project activity and hence verified. However, the 10 instances were listed as different VCS projects which are different CPAs of the CDM PoA but they have been combined due to new guideline in clause 3.23.9 (2)
- No other relevant eligibility information is required and the following sections of report will include all the requirements of the program.

AFOLU project eligibility, if applicable	Not Applicable
Transfer project eligibility, if applicable	Keeping in-line with the VCS guidelines as per Section A.2 under APPENDIX 2 (Eligibility Conditions for Projects and CPAs Seeking VCS Registration) for CPAs transitioning from CDM to VCS. This project activity registered under CDM as a part of the CDM-PoA ;10443; however, verification has not been conducted under CDM for the current monitoring period from “21-April-2022 to 30-April-2024”.
Project design	As per VCS Joint PD&MR this project is a grouped project located in Madagascar and section 1.5 of the VCS Joint PD&MR correctly shows the inclusion criteria of new project activity instances. However, the current project involves 10 PAIs whose distribution is already completed
Project ownership	Korea Carbon Management Ltd. has the carbon rights and ownership
Project start date	21-April-2022
Project crediting period	21-April-2022 to 29-February-2032
Project scale	Large Project
Likelihood of achieving estimated GHG emission reduction or removals	The project is claiming to reduce 3,739,774 tCO ₂ e in 10 years (with effective crediting period of 9.87 at group level) and 373,977 tCO ₂ e per year. The PP has further estimated the annualized average based on actual remaining crediting period for each instance and results annualized average value is 404,056 tCO ₂ e (Details have been verified in ER sheet /2/ (Refer: TAB Ex-ante__Emission Reduction, CELL BL27 to BL39).
Technologies and measures implemented by the project activity	The project falls under Scope 3- Energy Demand which involved distribution of ICS.
Implementation schedule of the project activity or activities	This grouped project activity involves distribution of improved cookstoves of two types and it has been started from 21-April-2022. Till the end of first monitoring period i.e. on 30-April-2024. Each project activity instance is fully implemented with a total of 13,752 and 13,604 numbers of households for Portable ICS (SaoRehitra) and Fixed ICS (Lamasinina) respectively. The total number 137,224 (included both type

	ICS) improved cookstoves has been distributed to the households across Madagascar under the 10 different instances which was estimated for each Instance and no incident has happened in current monitoring period which can affect the ERs as verified from the VCS Joint PD&MR and Project database/12/ and site visit conducted.
Project location	The project is located in entire geographical boundary of Madagascar. Further, the PP has provided KML files and same was found to be correct, hence accepted.
Conditions prior to project initiation	The scenario existing prior to the implementation of the project is the actual baseline scenario which is equal to the existing common practice in the region i.e. in absence of the project activity the equivalent amount of thermal energy generated using firewood in three stone open fires to meet the cooking energy demand
Project compliance with applicable laws, statutes and other regulatory frameworks	Yes. The project is compliant with major national and state forestry laws mandatory as per the host country requirements. A list of applicable laws is mentioned in section 1.15 of the VCS Joint PD&MR/1/ submitted by the client.
Double counting and participation under other GHG programs	- Assessment team could not find such project in any other registry except CDM where it has received credits till 31-December-2020 or seeking credit for reductions and removals from a project activity when searched independently by assessment team. PP has further submitted a No double counting declaration submitted by PP and hence accepted. - PP has provided the information that this project is not registered and not seeking registration in any other registration under any other GHG programs and same is found to be correct on independent assessment by the assessment team. PP has further submitted a No double counting declaration submitted by PP and hence accepted. - PP has provided the information that this project is not rejected by another GHG program and same is found to be correct on independent assessment by the assessment team. PP has further submitted a No double counting declaration submitted by PP and hence accepted.

No double claiming with emissions trading programs or binding emission limits	PP has provided the information that this project is not claiming with emissions trading programs or binding emission limits by another GHG program as per clause 3.23.1 of VCS Standard version 4.7 and same is found to be correct on independent assessment by the assessment team. Further PP has provided a No double counting declaration submitted by PP and hence accepted.
No double claiming with other forms of environmental credit	PP has provided the information that this project is not claiming other forms of environmental credit by another GHG program as per clause 3.23.1 of VCS Standard version 4.7 and same is found to be correct on independent assessment by the assessment team. Further PP has provided a No double counting declaration submitted by PP and hence accepted.
Supply chain (Scope 3) emissions double claiming	PP has confirmed that the project is not generating any scope-3 emissions however, it involves the manufacturing and supply chain logistics and PP has provided a declaration also to back up his claim and it is found to be correct.
Sustainable development contributions	As per VCS Joint PD&MR/1/, section 1.18 8 SDGs have been claimed by the project which are SDG 1, SDG 3, SDG 4, SDG 5, SDG 7, SDG 8, SDG 13 and SDG 15
Additional information relevant to the project	No Additional information is provided by PP in the VCS Joint PD&MR/1/ which needs to be assessed by VVB

3.2 Project Activity Instances in Grouped Projects

The Assessment team has assessed the section 1.5 of VCS Joint PD &MR/1/ for the eligibility of Inclusion of PAIs in the project activity and it is confirmed that the inclusion has happened appropriately as per the required VCS standard guidelines and the additional documents were cross checked for the inclusion assessment which were WBT reports for both type of ICS, Project installation database, sample registration records, Beneficiary agreement, no double counting declaration and ER Sheet which have been found correct and appropriate. Hence the inclusion of all 10 PAIs was found to be correct in the current Monitoring period.

Overall, the inclusion process is appropriate and as per the guidelines of VCS standard and the VCS Joint PD& MR/1/.

3.3 Safeguards

3.3.1 Stakeholder Engagement and Consultation

3.3.1.1 Stakeholder Identification

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	As per VCS Joint PD& MR; Stakeholders under the project activity involved recognizing the individuals and communities that can be affected by or influenced by the project. PP has considered the local village committees and village officials as the key informants and focus groups who know best about the local residents - Local residents around project area - Traditional stove users - Users of an ICS - Field assistants - A charcoal stove user - NGO representatives
Legal or customary tenure/access rights	ICS is a completely voluntary activity and households in participating villages are free to choose whether they take part or not. This is a free cookstove distribution project. They have full ownership of their respective lands and this was assessed by the agreement between the landowners and the project owners. So, this is not applicable
Stakeholder diversity and changes over time	The project activity targets households in rural communities with no previous ICS access. ICS are distributed free of cost to users. The project activity is fully implemented with a total of 13,752 numbers of households for SoaRehitra and 13,604 for Lamasinina which were covered under this project in 10 different PAIs. Each household received one ICS. Therefore, there will be no change in the beneficiaries over time.
Expected changes in well-being	The project is expected to embark some of the remarkable change in the economic well-being of community including - Direct local employment - financial benefits (i.e. gain in their household incomes) due to saving in fuel cost as well as provision for new income opportunities due to saving in cooking time with project ICS. - reduce the fine particulate matter (PM2.5) emitted during cooking thereby improving overall health outcomes and

	reducing burdens of disease and attributed to low mortality rate in long run - Due to the project activity, each and every woman in the household experiencing reduction in drudgery, specifically for women and children, as time saved through reduction of time spent collecting fuelwood and cooking time due to efficient ICS technology - The project contributes to emission reduction from the replacement of baseline cooking practice/stoves with an energy efficient ICS called “SoaRehitra” & “Lamasinina”. - Reduction in deforestation rate owing to the consumption of woody biomass from forests surrounding the communities and reducing pressure on forest reserves.
Location of stakeholders	The project activity targets households in rural communities with no previous ICS access. ICS are distributed free of cost to users. The project activity is fully implemented with a total of 13,752 / 13,604 (depending on instance) numbers of households for each instance which were covered under this grouped project in rural households of Madagascar.
Location of resources	Project resources are located in rural households of Madagascar.

3.3.1.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder engagement process	A local stakeholder consultation was conducted on 13-June-2018 at Sofia Hotel, Town of Fianarantsoa from 9.00 AM to 11.00 AM. Stakeholders belonging to different groups had been invited to comment on the PoA by press release published on 05/06/2018 in newspaper and stakeholder also informed by the physical meeting. 28 people, representatives of the following groups, took part: - Traditional stove users - Users of an ICS - Field assistants - A charcoal stove user - NGO representatives

	The stakeholder consultation was conducted at PoA level, since the technology and its impacts will be similar in the entire PoA. The representative of PP has explained in detail about technology (ICS) to be employed by this Programme and associated benefits. Based on the evidenced checked and onsite visit assessment team concluded that the Stakeholder engagement process is in line with VCS Requirements
Consultation outcome	In summary, the project aroused a keen interest among the participants, who considered it very important for the positive effects it would bring to rural communities Participants commented and asked questions about the structure of the PoA, the role of carbon credits in funding and about several features of the Improved Cookstove which was presented as ICS to be used in the first CPA, such as asking for lifetime and suggesting regular maintenance. It was also asked about whether ICS can be operated with charcoal, suggesting using charcoal where woody biomass is difficult to procure especially in urban areas. Moreover, participants asked what impacts the PoA would have on the local level, particularly regarding job creation. Apart from these direct questions, participants evaluated possible social and environmental impacts of the PoA. Further a thorough discussion with stakeholders present was done on various impacts and sustainability of PoA, based on discussion it was concluded that PoA is highly sustainable and will lead to positive development in host country. Based on the evidenced checked and onsite visit assessment team concluded that the Stakeholder engagement process is in line with VCS Requirements
Ongoing communication	In order to have an ongoing communication and consultation between the PP and stakeholder groups, PP take regular feedback and inputs from stakeholders via local team of Tandavanala and adapt management accordingly. PP has also placed a grievance register onsite, which is available & accessible at the Tandavanala office, wherein, the stakeholders can put down his/her feedback. Additionally, the grievance mechanism also includes various points of contacts through which one can submit his/her grievance or any feedback. This flow chart of communication was referred in the first page of the grievance register. As per practice any input to the register is reviewed and if found genuine will be addressed.

	However, there was no grievance related input has been reported within this monitoring period. Therefore, no action was required to undertake. Based on the evidenced checked (Grievance register, feedback forms and VCS Joint PD&MR) and onsite visit assessment team concluded that the Stakeholder engagement process is in line with VCS Requirements
Stakeholder input	Consultations with local stakeholders are essential steps in implementing a project. Different stakeholders participated in interactive training and demonstration sessions led by the project proponent and implementation partners. These sessions gave the participants details on the benefits of improved cookstoves, the advantages for the environment and human health, how to use ICS, and maintenance. PP welcomed any inquiries/ input about stoves from the stakeholders throughout the consultation. All the stakeholders' input recorded in the registered book. Details pertaining to the Local Stakeholder's Consultation were provided to the VVB during the verification process and they have been found to be consistent.

3.3.1.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Obtaining consent	FPIC does not apply to the project activities since they do not infringe on or otherwise concern land rights. However, VVB team was able to verify that there is free and prior informed consent from all the beneficiaries which was evident from the end user agreement and also confirmed during the onsite visit and interviews. In addition, ICS is a completely voluntary activity and households in participating villages are free to choose whether they take part or not.
Outcome of FPIC discussion	Not Applicable

3.3.1.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Development process	PP has developed a grievance redressal procedure which consists of the following core steps: - Beneficiaries and stakeholders have PP's contact information and the understanding that they should contact the organization with any problems, questions, or grievances. - Each beneficiary receives business card with the office phone number and location. - The PP has also placed a grievance register onsite, wherein, the stakeholders can put down his/her feedback and the same if found genuine will be addressed. Evidence gathering activities: During onsite visit the assessment team assessed via stakeholder interviews that process is designed to ensure any concerns or issues arising from the project activity will be addressed promptly and effectively, to maintain good relations with the community and ensure the success of the project. Evidence checked: VCS Joint PD&MR, onsite stakeholder interviews, Stakeholder consultation report & Grievance Register.
Grievance redress procedure	As assessed by VVB that there was no grievance received during current MP and only some positive comments were received. However, in case any grievance is received it will be addressed by implementing agency- ONG Tandavanala team if found genuine.

3.3.1.5 Public Comments

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
No Comments Received during public comment period	NA	NA

3.3.2 Risks to Local Stakeholders and the Environment

3.3.2.1 Management Experience

During onsite visit and during desk review of the documents it has been identified that PP has contracted WeAct Pty Ltd. to handle the consultation part and preparation of project documents and an implementing agency named- Tandavanala to implement the project; these entities are

much experienced in their fields and they have great experience in similar kind of projects, hence the management is fully experienced.

3.3.2.2 Risk Assessment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Natural and human-induced risks to stakeholders' wellbeing	Evidence Gathering Activities: Onsite visit and Desk Review Evidence Checked: On Site visit interviews /35/ Assessment Conclusion: Project activity is a cookstove project which is completely voluntary activity. On the basis of onsite visit, it is identified that there is no such risk related to natural and human induced risks involved.
Risks to stakeholder participation	Evidence Gathering Activities: Onsite visit and Desk Review Evidence Checked: On Site visit interviews /35/ Assessment Conclusion: Project activity is a cookstove project which is completely voluntary activity where and stakeholders are free to participate. On the basis of onsite visit, it is identified that there is no such risk related to stakeholders' participation involved.
Working conditions	Evidence Gathering Activities: Onsite visit and Desk Review Evidence Checked: Monitoring survey records & On-Site visit interviews /35/ Assessment Conclusion: It is concluded that based on the onsite visit and end user interviews it is concluded that there will be reduction of the workload as a result of reduced time for collecting the firewood, which can be used more productively for other income generating activities.
Safety of women and girls	Evidence Gathering Activities: Onsite visit and Desk Review Evidence Checked: Employment Records /15/ & On-Site visit interviews /35/

	Assessment Conclusion: As per the assessment it is found that there are no safety related risks identified in the project. Instead, the safety & security of the households, especially for women & children are enhanced due to this project as frequency of fuelwood collection is significantly reduced. Also, the project leads to prevention of fire hazards in the household kitchen and the improved cooking stove technology is environmentally safe. Hence, it is confirmed that PP fulfil the requirement of para 3.19.8 of VCS standard v4.7/25/.
Safety of minority and marginalized groups, including children	Evidence Gathering Activities: Onsite visit and Desk Review Evidence Checked: Employment Records /15/ & On-Site visit interviews /35/ Assessment Conclusion: As per onsite audit and interviews it is found that due to this project activity many peoples get employed also PP maintains safety of minority and marginalized groups, including children and project leads to prevention of fire hazards in the household kitchen and the improved cooking stove technology is environmentally safe.
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials, and chemical pesticides and fertilizers)	Evidence Gathering Activities: Onsite visit and Desk Review Evidence Checked: Manufacturer's Specification/10/ & On-Site visit interviews /35/ Assessment Conclusion: As project activity is improved cookstove project activity which results in improved health conditions of ICS users due to improved indoor air quality (reduction in Indoor Air Pollution from wood smoke), no release of any noise, any discharge to water and does not lead to generation of any waste, hazardous materials etc. which can be verified from the operational condition of the project.

3.3.3 Respect for Human Rights and Equity

3.3.3.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Discrimination	Evidence gathering activities: Desk-review, Personnel interview & focused grouped discussion/18/. Evidence checked: Declaration Provided by PP/21/ and Policy document Assessment Conclusion: There have been no reports of such incidents during the monitoring period. PP has ensured no discrimination through the implementation of comprehensive policies and training aimed at preventing and promptly addressing such issues. PP believes that discrimination in all its forms (gender, race, religion, sexual orientation, or other habits) and sexual harassment and assault have no place within the company and the policies reflect the same
Sexual harassment	Evidence gathering activities: Desk-review, Personnel interview & focused grouped discussion/18/. Evidence checked: Declaration provided by PP/21/ and Policy document Assessment Conclusion: There have been no reports of such incidents during the monitoring period. PP has ensured no discrimination through the implementation of comprehensive policies and training aimed at preventing and promptly addressing such issues.
Equal pay for equal work	Evidence Gathering Activities: Desk-review, Personnel interview & focused grouped discussion/18/. Evidence Checked: Declaration provided by PP/21/ and Policy document Assessment Conclusion: PP supports diversity, inclusion, and equity with attention to vulnerable populations, including women and female children. PP prohibits any form of discrimination, harassment, or assault, all being grounds for dismissal of employment, termination of the contract, an immediate discreet investigation of the reported incident, and where warranted, reports to the applicable authorities. In conclusion, the Project Proponent (PP) has demonstrated a strong commitment to gender equality in labor and work practices.
Gender equity in labor and work	Evidence Gathering Activities: Desk-review, Personnel interview & focused grouped discussion/18/. Evidence Checked: Declaration provided by PP/30/ and Policy document Assessment Conclusion: There have been no reports of forced labor, during the current monitoring period, highlighting PP's commitment to upholding these laws and ensuring the protection of vulnerable populations. Also, the local implementing partner Tandavanala is a registered national entity who operates and follows all required practices, hence there is no chance of engaging any

	forced labour. Additionally, PP has implemented policy measures to ensure that project is safeguarded from any such risk factors.
Forced labor	Evidence Gathering Activities: Desk-review, Personnel interview & focused grouped discussion. Evidence Checked: Declaration provided by PP/21/ and Policy document Assessment Conclusion: There have been no reports of child labor during the current monitoring period, highlighting PP's commitment to upholding these laws and ensuring the protection of vulnerable populations. Also, the local implementing partner Tandavanala is a registered national entity who operates and follows all required practices, hence there is no chance of engaging any forced labor. Additionally, PP has implemented policy measures to ensure that project is safeguarded from any such risk factors.
Child labor	Evidence Gathering Activities: Desk-review, Personnel interview & focused grouped discussion/18/. Evidence Checked: Declaration provided by PP/21/ and Policy document Assessment Conclusion: PP abides by the labor laws in the country where it operates and contract individuals, the project proponent, and implementing partners welcome any beneficiary who requests project services and is committed to the stated terms and conditions of project participation. The project does not use any victims of human trafficking as confirmed from the onsite interview.
Human trafficking	Evidence gathering activities: Human trafficking is a serious crime and PP abides by the labor laws in the countries where it operates and contract individuals, the project proponent, and implementing partners welcome any beneficiary who requests project services and is committed to the stated terms and conditions of project participation. This has been assessed through interview with the site personnel and found it to be true and policy regarding same has also been assessed. Evidence checked: VCS Joint PD&MR, onsite stakeholder interviews, internal Policies and their review practices managed at local organization level. Assessment conclusion: Based on the evidenced checked and onsite and remote visit assessment team concluded that there is no discrimination at the project site.

3.3.3.2 Human Rights

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
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No risk identified	Evidence gathering activities: The Project Proponent has familiarized themselves to the basic principles of human rights as outlined in documents like the Universal Declaration of Human Rights. This understanding encompasses rights related to labor, environment, non-discrimination, privacy, and community impacts. This has been assessed through interview with the site personnel and found it to be true and policy regarding same has also been assessed. Evidence checked: VCS Joint PD&MR, onsite stakeholder interviews, internal Policies and their review practices managed at local organization level. Assessment conclusion: Based on the evidenced checked and onsite visit assessment team concluded that there is no risk identified at the project site. The project maintains a commitment to upholding the rights of IPs, LCs, and customary rights holders, aligning with international human rights standards, including the UN Declaration on the Rights of Indigenous Peoples and ILO Convention 169. No instance of any human rights violation or concern has been reported or identified within the project (inclusive of staff and contracted workers employed across the project). Also, the local implementing partner Tandavanala is a registered national entity who operates and follows all required practices, hence there is no chance of encountering any risk or violation to human rights.
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3.3.3.3 Indigenous Peoples and Cultural Heritage

c	Evidence gathering activities, evidence checked, and assessment conclusion
"No risk identified"	Evidence gathering activities: The Project Proponent has familiarized themselves to the tribal communities and appointed a representative among their group to co-ordinate. This has been assessed through interview with the site personnel and found it to be true and policy regarding same has also been assessed. Evidence checked: VCS Joint PD&MR, onsite stakeholder interviews, Company Policy. Assessment conclusion: The project activity is distribution of improved cookstove which does not impact any tangible cultural heritage of the stakeholders, as no instances of any concerns related to indigenous people and their cultural heritage has been reported or identified

	within the project. Also, the local implementing partner Tandavanala is a registered national entity who operates and follows all required practices, hence there is no chance of disrupting any aspects of indigenous people and their cultural heritage. It does not involve any development or implementation on their land project directly empower households to access clean and modern energy in addition to several other socio-economic challenges facing the indigenous communities in the Madagascar.
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3.3.3.4 Property Rights

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
"No risk identified"	Evidence gathering activities: The Project Proponent has confirmed that the project activity does not infringe on or otherwise concern land rights. This has been assessed through interview with the site personnel and found it to be true and policy regarding same has also been assessed. Evidence checked: Desk-review of declaration/21/, Personnel interview & focused grouped discussion/18/ & Company Policy. Assessment conclusion: Based on the evidenced checked and onsite and remote visit assessment team concluded that there is no risk identified at the project site. Since the project activity involves the production and distribution of cook stoves has not incorporated any land or property of the stakeholders, including Indigenous Peoples (IPs), Local Communities (LCs), and customary rights holders, as the stoves are manufactured outside their land. Furthermore, the property rights are not applicable for the respective project activity.

3.3.3.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Process used to design the benefit sharing plan	The Project Proponent has confirmed that the project activity does not infringe on or otherwise concern land rights. This has been assessed through interview with the site personnel and found it to be true and policy regarding same has also been assessed hence it is not applicable.

Summary of the benefit sharing plan	Not Applicable.
Approval and dissemination of benefit sharing plan	Not Applicable.
Benefit sharing during the monitoring period	Not Applicable.

3.3.4 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	The project activity does not have any negative impact on biodiversity and ecosystems. However, it contributes to an estimated reduction in removal of woody biomass from forests surrounding the communities thereby leading to an increase in above-ground biomass in these forests hence it is not applicable.
Soil degradation and soil erosion	The project activity does not have any impact on Soil degradation and soil erosion hence it is not applicable.
Water consumption and stress	The project activity does not have any impact on Water consumption and stress hence it is not applicable.

3.3.4.1 Rare, Threatened, and Endangered species

Risk identified	Evidence gathering activities, evidence checked, and assessment conclusion
Species and habitat	Since the project activity involves the manufacturing and distribution of Improved Cook Stoves (ICS), which is not situated in or near habitats for rare, threatened, or endangered species, there are no direct impacts on these species or their habitats, hence it is not applicable.

Areas needed for habitat connectivity	Not Applicable.
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3.3.4.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
No Species are introduced as this is an ICS distribution project, hence it does not involve any introduction of species	Not Applicable.

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable.

Evidence gathering activities, evidence checked, and assessment conclusion	
Invasive species	Not Applicable.

3.3.4.3 Ecosystem conversion

Risks Identified	Evidence gathering activities and evidence checked
Ecosystem conversion	Since this is an ICS distribution project, hence it does not involve any ecosystem conversion, hence not applicable.

3.4 Application of Methodology

3.4.1 Title and Reference

As per the VCS Joint PD&MR/1/, applied methodology by the project activity is-

AMS-II.G- Energy efficiency measures in thermal applications of non-renewable biomass – Version 9.0⁴

Tools applied:

CDM TOOL30- Calculation of the fraction of non-renewable biomass Version 04

CDM TOOL33- Default values for common parameters Version 2.0

3.4.2 Applicability

Methodology ID	Applicability condition	Assessment and conclusion
AMS-II.G	The aggregate energy savings of a single project activity (instance) shall not exceed the equivalent of 60 GWh per year or 180 GWh thermal per year in fuel input.	Applicable Energy savings per improved stove (account 100% usage): 1) SoaRehitra ICS: 0.01307773 GWhth/year Hence, for 13,752 house hold maximum energy saving 179.84 GWhth per annum 2) Lamasinina ICS: 0.013220539 GWhth/year Hence, for 13,604 house hold maximum energy saving 179.85 GWhth per annum Therefore, energy savings is less than 180 GWh(th) per year for both types of ICS in each Instance.
	Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics	Proof that non-renewable biomass has been used in the project region i.e. in host country Madagascar since 31 December 1989 is available through widespread documentation of more biomass being consumed than is sustainably harvested, and is specifically outlined in

⁴ The applied methodology of the project activity is AMS-II.G version 9.0 as per the exemption letter approved by VERRA dated 06-February-2025/27/

		an information note for the CDM which estimates fraction of non-renewable biomass for Least Developed Countries⁵. More specifically a survey report by WWF in Madagascar reveals that the 92% of total energy used by Malagasy households is met by wood biomass comes from forests⁶. Fuel wood and charcoal are the main sources of energy in both rural and urban areas. Wood Energy is mainly used as fuel for cooking at household. The FAO survey reveals that between 1990 and 2010, Madagascar lost an average of 56,950 hectares per year. In total, between 1990 and 2010, Madagascar lost 8.3% of its forest cover, or around 1,139,000 hectares ⁷. The recent survey shows the deforestation rate is further increasing. Deforestation continues to rise in Madagascar with a forest loss rate of 1.5% per year from 2010 to 2013 (ONE, 2015). According to the National Forest cover study, carried out by the National Office of Environment, Madagascar record a forest decline of 45000 ha on average for the year from 2010 to 2013, but currently it has increased to
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⁵ CDM SSC WG 35th Meeting Report, Annex 20

⁶ WWF, Diagnostic du secteur énergie à Madagascar, Report, September, 2012

⁷ <http://rainforests.mongabay.com/deforestation/2000/Madagascar.htm>

		135000 ha by 2015 (ONE, 2015). The above justification clearly shows that deforestation is evident and it is happening since 1989 and trend is further increasing and above is mainly to meet woody biomass as fuel for meeting thermal energy requirement for cooking at households.
	For cases where the biomass is sourced from renewable sources, the project participants should use a corresponding Type I methodology.	Not Applicable.
	If the project device requires a specific fuel for this device (e.g. briquettes, pellets, woodchips), the consumption of the fuel should be monitored during the crediting period.	There is no change in fuel type used than baseline scenario, the project activity is improvement in energy efficiency of the appliance.
Tool 30 version 04.0: Calculation of the fraction of non-renewable biomass	DNAs to submit region- or country-specific default f_{NRB} values, following the procedures for development, revision, clarification and update of standardized baselines (SB procedures).	The project location is Madagascar. Tool 30 is used by PP to calculate the f_{NRB} value for the same which is used for determining the project emission reductions and it is found to be correct by VVB as the f_{NRB} sheet/7/ submitted is found correct and the value applied is 96.6%.

3.4.3 Project Boundary

As per the applied methodology the project boundary is the physical, geographical site of the efficient ICS that utilize biomass, hence it includes all the ICS that have been distributed in Madagascar under the current grouped project activity. After thorough review of VCS Joint PD & MR /1/ section 3.3 showing project boundary, location of distributed ICS and an on-site inspection confirms that the project activity is spread across different communes in rural

household of Madagascar. On a yearly average, the project activity is expected to achieve 45,661 tCO₂e of Average Annual GHG removals for a period of 10-years of fixed crediting period.

The source and sinks of gases included in the baseline and project scenario are same since the project activity involves the usage of non- renewable biomass/Fossil fuel which is as follows: -

Source		Gas	Included?	Assessment/Conclusion
Baseline	Emission from use of non-renewable biomass/Fossil fuel	CO ₂	Yes	Major Source
		CH ₄	Yes	Major Source
		N ₂ O	Yes	Major Source
		Other	No	No other source identified
Project	Emission from use of non-renewable biomass/Fossil fuel	CO ₂	Yes	Major Source
		CH ₄	Yes	Major Source
		N ₂ O	Yes	Major Source
		Other	No	No other source identified

3.4.4 Baseline Scenario

As defined in the methodology and VCS Joint PD &MR/1/, the baseline scenario for the grouped project activity is the continued use of non-renewable wood fuel (firewood) by the target population to meet similar thermal energy needs as provided by the project cookstoves in absence of project activity. The baseline cookstoves are three-stone fires or conventional systems which lacks improved combustion air supply mechanism and flue gas ventilation system i.e., traditional stoves.

The baseline scenario is found appropriate by the VVB assessment team:

- The Assumptions and data used in the identification of the baseline scenario are justified appropriately by PP as per applied methodology and it is justified by providing the different research paper studies happened in project area which is found to be correct by VVB when independently checked.

The baseline survey assessment was conducted by PP and results were derived based on real time data collected during the sampling survey. The sampling survey and the study report was verified and found to be credible as it was conducted by CEDII (Regional Center of Documentation and Information, in Madagascar) which is a credible third-party institute. The survey data confirmed the use of non-renewable woody biomass as the only fuel in the region and also estimated the annual quantity of woody biomass used at

baseline with three-stone or open firing arrangements to generate useful thermal energy for cooking.

- The onsite visit to the site and interview with the site personnel and end users confirmed that the baseline scenario identified is correct, also this project was already registered as part of CDM PoA where this was already assessed and confirmed by different VVB and here it is cross verified and hence accepted.

3.4.5 Additionality

The methodology uses activity method for the demonstration of additionality

Step wise approach is demonstrated below:

Activity Method

Step 1: Regulatory Surplus

There is no mandated government programme or policy in host country of this project ensuring the distribution of domestic fuel-efficient cookstoves. The project is not mandated by any law, statute or other regulatory framework, or for UNFCCC non-Annex I countries, any systematically enforced law, statute or other regulatory framework.

Households may only participate voluntarily in this project. It is hereby confirmed that the proposed project is a voluntary coordinated action by the project proponent.

Step 2: Positive List

As demonstrated in Section 3.2, the project meets the applicability conditions of the methodology which represent the positive list.

- The project installs the ICS at zero cost to the household and has no other source of revenue other than the sale of GHG credits.
- The project is not implemented as part of government schemes or supported by multilateral funds.

As the project fulfils the conditions above, it is deemed additional.

Step 3: Project Method

For any project activity where stoves are not provided at zero cost to the end-user or has any other source of revenues other than the sale of GHG credits, then the project activity shall apply investment analysis method set out in the CDM Tool for the Demonstration and Assessment of Additionality included in AMS-II.G to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible.

This step is not applicable under project activity because the stoves are provided at zero cost to the end-users.

Cross check of zero-cost to end-users for ICS:

The assessment team has reviewed the beneficiary user-agreement which is a voluntarily signed agreement between the PP and end-user which confirms that ICS is received free of any cost and users also gives carbon rights to PP. Additionally, during the on-site assessment it was confirmed from the beneficiary interviews that project stoves were provided at zero cost to the end-users, further regular visits related to spot check, training, operational and maintenance related activities etc. are also being performed by project proponent regularly without any cost to the beneficiaries.

Hence the additionality of the project is as per the applied methodology.

3.4.6 Quantification of GHG Emission Reductions and Carbon Dioxide Removals

The process for quantifying the GHG emission reductions by the project during the project's fixed crediting period was conducted in accordance with the applied methodology /28/. Assessment Team has performed review of all data, parameters, formulas, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS documentation, methodology tools, and the VCS Joint PD&MR /1/.

As per the clause 3.10.1 of VCS Standard 4.7- "Projects: Less than or equal to 300,000 tCO₂e per year". Large projects: "Greater than 300,000 tCO₂e per year". Since the estimated emission removals is 373,977 tCO₂e per year that is greater than 300,000 tCO₂e per year so the project activity falls under "Large project" category.

Baseline Emissions-

The applied methodology does not account for baseline emissions separately, but instead quantifies net emission reductions achieved by the project.

Project Emissions-

As AMS-II.G does not account for project emissions separately, but instead quantifies net emission reductions achieved by the project, similarly the project emissions are not quantified separately.

Leakage Emissions-

As per the applied methodology, the adjustment factor of 0.95 in order to account for leakage included in the estimation of net emission reductions as verified from the equation below.

In the project activity-

Net anthropogenic GHG emissions are calculated using

As per AMS-II.G; Version 9.1/28/, the project activities that are replacing baseline devices using non-renewable biomass must apply the equations (except Equations 1, 2 and 3) to determine net GHG emission reductions.

The following equation replaces Equations 1 and 2 of AMS-II.G.

$$ER_{y,i,j} = \sum_i \sum_j B_{y,savings,i,j} \times N_{o,i,j} \times n_{y,i,j} \times \mu_y \times f_{NRB,y} \times NCV_{biomass} \quad \text{Equation (1)}$$

	$\times (EF_{wf,CO2} + EF_{wf,non\ CO2}) \times Adj_{LE} \times (1 - u_d)$
ER_y	Emission reductions in year y (tCO ₂ e)
$B_{y,savings,i,j}$	Quantity of woody biomass that is saved per project device i and batch j in year y (tonnes)
$N_{o,i,j}$	Number of project devices of type i and batch j commissioned (number)
$N_{y,i,j}$	Proportion of commissioned project devices of type i and batch j ($N_{o,i,j}$) that remain operating in year y (fraction)
μ_y	Adjustment to account for any continued use of pre-project devices during the year y
$f_{NRB,y}$	Fraction of woody biomass that can be established as non-renewable biomass (%)
$NCV_{biomass}$	Net calorific value of the non-renewable woody biomass that is substituted or reduced (TJ/tonne)
$EF_{wf,CO2}$	CO ₂ emission factor for non-renewable woody biomass (tCO ₂ /TJ)
$EF_{wf,non\ CO2}$	Non-CO ₂ emission factor for non-renewable woody biomass (tCO ₂ e/TJ)
Adj_{LE}	Adjustment factor to account for leakage related to the non-renewable woody biomass saved by the project activity (fraction)
u_d	Uncertainty deduction for f_{NRB} (%)

According to AMS-II.G version 9.0/28/, $B_{y,savings,i,j}$ must be determined by applying the procedures and requirements of AMS-II.G. Therefore, the quantity of woody biomass saved due to implementation of improved cookstoves to be estimated using equation below (Equation 7 of AMS-II.G.)

$$B_{y,savings,i,j} = B_{old,i,j} \times \left(1 - \frac{\eta_{old,i,j}}{\eta_{new,i,j}}\right) \quad \text{Equation 7}$$

$\eta_{old,i,j}$	Efficiency of the old devices being replaced by project devices of type <i>i</i> and batch <i>j</i> (fraction)
$\eta_{new,i,j}$	Efficiency of the project device <i>i</i> and batch <i>j</i> (fraction)
B_{old}	Annual quantity of woody biomass that would have been used in the absence of the project activity to generate thermal energy equivalent to that provided by the project device type <i>i</i> and batch <i>j</i> (tonnes/year)

Where the project households continue to use baseline cookstoves along with improved cookstoves, B_{old} shall be adjusted ex-post based on the percentage of project households found to continue such practice according to Equation 6. For such cases, the quantity of woody biomass

saved due to implementation of improved cook stoves shall be calculated using an adjusted value to account for ex-post use of baseline stoves in addition to improved cookstove.

$$B_{old,adjusted} = B_{old} \times (1 - \mu_y)$$
 Equation (6)

$B_{old,adjusted}$	Adjusted B_{old} to account the ex-post usage of firewood in baseline cookstove(s) by project households in addition to improved cookstove (in tonnes per device.
μ_y	Baseline stove usage factor to account for use of baseline cookstoves along with improved cookstoves

For ex-ante calculation purpose, the assumptions and values below are applied which is found to be correct in the Ex-ante ER sheet submitted by PP:

	Description	SoaRehitra Portable ICS	Lamasinina Fixed ICS
$N_{o,i,j}$	Number of project devices of type i and batch j commissioned	13,752	13,604
-	Life Span (years)	5.5	15
$\eta_{new,i,j}$	Efficiency of the project device ⁸ i and batch j	32.2%	33%
$\eta_{old,i,j}$	Efficiency of the old devices being replaced by project devices of type I and batch j	10%	10%
μ_y	Adjustment to account for any continued use of pre-project devices during the year y	0.96	0.96
$\eta_{y,i,j}$	Proportion of commissioned project devices of type i and batch j ($N_{o,i,j}$) that remain operating in year y	0.9	0.9
$B_{old,i}$	Annual quantity of woody biomass that would have been used in the absence of the project activity to generate thermal energy equivalent to that provided by the project device type i and batch j	4.390	4.390
$B_{y,savings,i,j} = (B_{old,i}) * (1 - (\eta_{old,i,j} / \eta_{new,i,j}))$	Quantity of woody biomass that is saved per project device i and batch j in year y	3.03	3.06
$f_{NRB,y}$	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass	0.9660	0.9660
$NCV_{biomass}$	Net Calorific Value of biomass	0.0156	0.0156
$EF_{wf,CO2}$	CO ₂ emission factor for non-renewable woody biomass	112	112
$EF_{wf,non CO2}$	Non-CO ₂ emission factor for non-renewable woody biomass	9.46	9.46

⁸ The reported efficiencies are as per WBT report during the CPA inclusion stage under CDM. However, project applies conservative efficiency values based on WBT conducted on first operational batch of similar ICS, followed by annual discounting for loss of efficiency as per methodological provision.

Adj _{LE}	Adjustment factor to account for leakage related to the non-renewable woody biomass saved by the project activity	0.95	0.95
U _d	Uncertainty deduction for f _{NRB}	0.26	0.26
ER _y	Emission reductions in year y	46,270	46,272

The total emission reductions as calculated by PP (example of instance 1 in section 5.4 of VCS Joint PD&MR) for entire 10 year fixed crediting period is 3,739,774 tCO₂e with annual average GHG emissions of 373,977 tCO₂e. The assessment team has verified that PP has estimated the annualized average based on actual remaining crediting period for each instance and results annualized average value which is in line with the para 3.9.7 of the VS v4.7 (Details have been verified in ER sheet /2/ (Refer: TAB Ex-ante__Emission Reduction, CELL BL27 to BL39).

Assessment Team confirms the estimated emission reductions throughout the group project crediting period through the VCS Joint PD&MR /1/ and cross checked the same from the ER Sheet/2/ submitted by PP and found it to be correct. Further all the values used in VCS Joint PD&MR/1/ are reasonable and methodology has been applied correctly to calculate the net GHG emission reductions.

3.4.7 Methodology Deviations

There is no methodology deviation requested by PP in the VCS Joint PD&MR/1/.

3.4.8 Monitoring Plan

The monitoring plan is established as per the applied methodology/28/ and on the basis of desk review of VCS Joint PD&MR assessment team has checked all the parameters mentioned in the monitoring plan Section 6 against the requirements of the applied methodology and assessed as represented below:

Data and parameters available during validation: -

Data / Parameter	Description	Value applied in SoaRehitra Portable ICS	Value applied in Lamasinina Fixed ICS	Justification of choice of data or description of measurement methods and procedures applied
$f_{NRB,y}$	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable	0.9660	0.9660	The f_{NRB} calculation has been referred in line with the para 51(a) of the methodology AMS-II.G. The survey had been conducted and values & calculations are reported by an independent third party (CEDII) which was further approved by the host country DNA. The supporting documents are

	biomass (Fraction)			submitted to VVB and they are found to be correct.
$\eta_{old,i,j}$	Efficiency of pre-project device (Fraction)	10%	10%	A default value of 10% is used as per applied methodology.
$B_{old,i,j}$	Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type i and batch j (tonne/year)	4.390 tonne/year	4.390 tonne/year	The annual quantity of wood that would have been consumed in absence of the project activity will be calculated as below: $B_{old,i,j} = B_{old,HH} / N_{d,HH}$ Where, $B_{old,HH}$ was determined through survey at the time of validation and $N_{d,HH}$ is a monitoring parameter
$EF_{projected_fossil\ fuel}$	Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers (tCO ₂ /TJ)	112+9.46= 121.46 tCO ₂ /TJ	112+9.46= 121.46 tCO ₂ /TJ	IPCC default value
Adj_{LE}	Adjustment factor to account for leakage related to the non-renewable woody biomass saved by the project activity (Fraction)	0.95	0.95	Default value of methodology

μ_d	Uncertainty deduction for f_{NRB}	0.26	0.26	Default value of methodology
$NCV_{biomass}$	Net calorific value of the non-renewable woody biomass that is substituted or reduced (TJ/tonne)	0.0156 TJ/tonne	0.0156 TJ/tonne	IPCC default value
Life span	The operating lifetime of the project device (years)	5.5 years	15 years	The value is taken from third party certified test reports conducted for ICS performed by experienced professional under "THE NATIONAL INDUSTRIAL AND TECHNOLOGICAL RESEARCH CENTER" (under Ministry of Higher Education and Scientific Research, Madagascar) which is submitted to VVB and found correct.

Data and Parameters to be monitored: -

Data / Parameter	Description	Value applied	Measurement methods and procedures applied
$N_{y,i,j}$	Number of commissioned project devices of type i and batch j (Number)	SoaRehitra portable ICS: $13,752 \times 0.9 = 12,376.8$ Lamasinina Fixed ICS: $13,604 \times 0.9 = 12,243.6$ (Numbers above is represents the number of ICS in each Instance included in the grouped project activity)	The total number of appliances by type and age deployed during period y is tracked in the Project Database of the project, which is updated regularly. All ICS distributed will be recorded for installation date and recipient /location. The distribution date for each appliance listed in the Project Database/12/. The number of stoves still operating will be determined based on representative sampling. The total number of operational stoves shall be calculated as the fraction of stoves of type i and age a found operational in the sampling survey multiplied by total number of stoves of type i and age a in the project database/12/. For current monitoring period, 100% of stoves were found operational as per the project database /12/ submitted by PP along with the ER sheet and

			sampling survey sheet. However, 90% operational considered for this MR01 as conservative approach.
$n_{y,i,j}$	Proportion of commissioned project devices of type i and batch j ($N_{y,i,j}$) that remain operating in year y (fraction)	0.9	Measured directly or based on a representative sample. Sampling standard shall be used for determining the sample size to achieve 95/10 confidence/precision levels. Separate samples shall be taken for each batch and through sampling survey this needs to be confirmed For current monitoring period, 100% stoves found operational during the sampling survey hence the value applied for current MP is 0.9 as conservative approach.
μ_y	Adjustment to account for any continued use of pre-project devices during the year y (fraction)	For ex-ante calculation, the value is assumed as 0.96	A sampling monitoring survey has been conducted on calculated sample size as per the sample plan and in line with the provision given under the methodology AMS-II.G to record usages consumption level in lieu of continued baseline stoves. The option 2 of the methodology has been referred while conducting the sampling survey as baseline devices are three stone fire across all the households. As per the methodological requirements, the survey was designed to capture the cooking habits and stove usage of households for the identified samples, including quantification of use of baseline devices. Thus, number of meals cooked with project ICS, fulfilment of cooking needs, etc. were captured and also in case of samples where baseline stoves were identified their usages detail were recorded. Since this parameter is a proportion (i.e., fractional value), the sampling result has been expressed as a proportional value.

$\eta_{new,i,j}$	Efficiency of the device of each type i and batch j implemented as part of the project activity (fraction)	SoaRehitra ICS: 32.2% Lamasinina Fixed ICS :33% <table><tr><th>Vintage</th><th>SoaRehitra ICS</th></tr><tr><td>1</td><td>31.50 %</td></tr><tr><td>2</td><td>29.41 %</td></tr><tr><td>3</td><td>27.32 %</td></tr></table><table><tr><th>Vintage</th><th>Lamasinina ICS</th></tr><tr><td>1</td><td>31.71 %</td></tr><tr><td>2</td><td>30.93 %</td></tr><tr><td>3</td><td>30.15 %</td></tr></table>	Vintage	SoaRehitra ICS	1	31.50 %	2	29.41 %	3	27.32 %	Vintage	Lamasinina ICS	1	31.71 %	2	30.93 %	3	30.15 %	Water Boiling Test (WBT) on randomly selected Households from the database, selected as per sampling size calculation. Such WBT is conducted after commissioning/distribution of ICS, in order to estimate the operational efficiency of ICS for the 1st year of operation. The value has been considered as ex-ante fixed for same ICS type for the year 1. Thereafter, the yearly loss in efficiency of ICS is calculated as per para 37 of the methodology, AMS-II.G and respective vintage wise efficiencies have been determined in ER sheet and it is cross verified by VVB and found correct.
Vintage	SoaRehitra ICS																		
1	31.50 %																		
2	29.41 %																		
3	27.32 %																		
Vintage	Lamasinina ICS																		
1	31.71 %																		
2	30.93 %																		
3	30.15 %																		
Date of commissioning of batch j	To establish the date of commissioning, the Project Participant opted to group the devices in “batches” and the latest date of commissioning of a device within the batch shall be used as the date of	To be referred from the ER calculation sheet for each batch in each instance.	For each batch the date of distribution of first and last ICS will be recorded and the last date shall be used as date of commissioning for that batch. The ICS under the program is continuously being manufactured, uniquely numbered and continuously distributed; hence each ICS under the CPAs is being continuously recorded in the database and total number of ICS distributed in a particular month is considered as a batch for the purpose of emission reduction calculation.																

	commissioning for the entire batch (Date)		PP has considered the last date of distribution of a particular month as the date of complete commissioning of the stove batch distributed for that particular month (here a batch is referred to as total numbers of stoves distributed in a particular month). Therefore, start date of accounting of emission reductions for stoves distributed in a particular month has been considered as the next day of the last date of stove distribution for that month. Whereas, for the purpose of identification of ICS numbers vintage-wise, the year fraction for each ICS has been calculated from the date of its distribution. Therefore, this is a conservative approach both for the purpose of ER calculation and calculation of yearly efficiency as per para 37 of the methodology AMS-II.G /28/. The details related to date of accounting of stoves are of provided in the ER calculation sheet for current monitoring period. Hence, the year fractions are calculated separately for each vintage and batch as verified from the ER sheet/2/ submitted by PP.
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As per the provision of the registered PoA (#10443), the sampling is considered at PoA level for all the CPAs to be covered under a particular Monitoring Period, hence a PoA level sampling is generally conducted by PP. However, this project is currently a Grouped Project activity with independent VCS listed projects are the Instances to this Grouped Project. Therefore, the sampling monitoring approach has been adopted at Group level covering all the 10 Instances.

As per the provision of the Sampling Guidelines /22/ (more details given under this section below), a detailed sampling survey has been conducted during the month of May 2024. This sampling survey is applicable to the current monitoring period and the same sampling survey⁹ has been referred for this project activity for the purpose of all the monitoring parameters attributed to the Sampling Monitoring plan.

The sampling plan implemented by the PP is in accordance with the applied approved monitoring methodology/28/ and to monitor the parameters $N_{y,i,j}$ and $\mu_{y,i}$. The share of operating stoves and the continued use of pre-project devices will be determined based on sampling procedures as outlined in section 6.3 of the VCS Joint PD&MR/1/.

⁹ biennial sampling survey approach is followed and results from the latest sampling survey (i.e. survey conducted during May 2024, as per 95/10 level) applied under the current MP. For further reference, footnote #6 of 'Sampling Standard' can be considered which refers to "General guidelines for SSC CDM methodologies" and its respective para 26, 27 & footnote #4 prescribes that the survey results may be used for the period 12 months after the survey date, on top of using the results for the period prior to the survey date, resulting in up to 24 months period to which the survey results may be applied to, irrespective of when the monitoring reports are uploaded.

Monitored Parameter:

$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y
$\mu_{y,i}$	Adjustment to account for any continued use of pre-pre-project devices during the year y

The PP has appropriately performed Representative sampling will be undertaken as part of the Sampling Plan procedure, reliability levels were set at 95% confidence and 10% precision in line with the applied methodology /28/ and Guideline: “Sampling and Surveys for CDM Project Activities and Programme of Activities”, version 04/22/. Survey has been carried out by PP in May 2024.

The sampling surveys have been carried out by well-trained personnel. Further, preparedness for conducting survey was adequate and survey plan was robust. Monitoring of the parameters ensures compliance with the applied methodology/28/. Assessment team has checked the survey records and sample size calculation by PP through desk review and interview with the personnel responsible for doing the survey and reporting during site visit.

PP has provided the detailed sample size calculation under section 6.3 of the VCS Joint PD&MR /1/.

Thus, continuing with the new sampling survey for applying into the current monitoring period. both the sampling parameters considered based on ‘proportion value’, hence to estimate the sample size for parameters $N_{y,i,j}$ and $\mu_{y,i,j}$ the following equation is used for both types of ICS installed in different Instances:

$$n \geq \frac{1.96^2 N \times p (1 - p)}{(N - 1) \times 0.1^2 \times p^2 + 1.96^2 \times p (1 - p)}$$

Assessment Team concludes that all required parameters as per the applied methodology are taken into consideration by PP. All the parameters and ways to measure them are clearly described in the monitoring and sampling plan. All other details as required and followed in the project activity is clearly stated in the VCS Joint PD&MR/1/ and it was verified during onsite inspection and interview with PP and found consistent and correct.

3.5 Non-Permanence Risk Analysis

There is no non-permanence risk rating determined by the project proponent as this is not an AFLOU project, hence not applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

As per the desk review of VCS Joint PD&MR/1/ and from on-site assessment and monitoring results of PP, the assessment team confirms the project implementation and operation as stated in VCS Joint PD&MR/1/ submitted to VVB. The purpose of the project is to disseminate efficient, improved cooking stoves (ICS) in rural households of Madagascar which have higher thermal efficiency of 32.2% and 33% for SoaRehitra and Lamasinina ICS thus, reduces greenhouse gas (GHG) emissions by replacing traditional wood-fuel by wood-fuel ICS. The replacement of conventional method by ICS improves heat transfer to the cooking utensil thereby reducing the amount of fuel (non-renewable biomass) required for cooking.

Under this grouped project activity, the distribution of improved cookstoves has been started from 21-April-2022. Till the end of first monitoring period i.e. on 30-April-2024. Each project activity instance is fully implemented with a total of 13,752 and 13,604 numbers of households for Portable ICS (SoaRehitra) and Fixed ICS (Lamasinina) respectively. The total number 137,224 (included both type ICS) improved cookstoves has been distributed to the households across Madagascar under the 10 different instances. Each Household has received one ICS under this grouped project.

During the current monitoring period, no incident or event occurred, that could affect GHG emissions reduction and approved monitoring plan.

This is a grouped project activity and total 10 instances are covered under this grouped project as follows which were listed under different project activity under VCS but was not taken up further due to new rules of VCS Standard version 4.7, hence these project activities are combined and listed as single grouped project and remaining 9 projects, have been withdrawn from VCS to remove their independent identity under VERRA (reference: withdrawal request letter to VERRA dated 06-February-2025); whereas they remain the instances under this Grouped Project:

Instances	CPA Reference	VCS Ref. ID (listing status)	ICS type	Total number of ICS distributed	Date of commissioning
Instance 1	CPA 31	2795	SoaRehitra	13,752	21-April-2022
Instance 2	CPA 33	2797	SoaRehitra	13,752	09-June-2022
Instance 3	CPA 35	2799	SoaRehitra	13,752	30-June-2022
Instance 4	CPA 37	2801	SoaRehitra	13,752	29-August-2022
Instance 5	CPA 39	2803	SoaRehitra	13,752	14-November-2022
Instance 6	CPA 41	2805	SoaRehitra	13,752	19-December-2022
Instance 7	CPA 30	2794	Lamasinina	13,604	14-February-2023

Instance 8	CPA 43	2807	SoaRehitra	13,752	17-April-2023
Instance 9	CPA 32	2796	Lamasinina	13,604	30-June-2023
Instance 10	CPA 45	2809	SoaRehitra	13,752	17-July-2023

Implementation Status	Assessment steps, evidence checked, & conclusion:
Project implementation	Evidence Gathering Activities: The desk review and onsite inspection of the project activity confirms the project implementation details. Evidence Checked: VCS Joint PD&MR and Ex-ante ER sheet submitted by PP. VVB's Conclusion: The assessment team confirms that the project is implemented as described in the VCS Joint PD&MR and till the current monitoring period 137,224 improved cookstoves has been distributed to the rural households across Madagascar under the 10 different instances included in the project activity. No any incident was found that may affect the GHG emission reductions in current monitoring period. As per the sampling survey conducted in May 2024 applicable for current MP, 100% cookstove are found operational and no baseline cookstove were found in any sample selected by PP and VVB.
Monitoring plan	Evidence Gathering Activities: The desk review and onsite inspection of the project activity confirms the project monitoring plan. Evidence Checked: VCS Joint PD&MR and Ex-ante ER sheet submitted by PP, sampling survey sheet/3/. VVB's Conclusion: The assessment team confirms that the project is implemented as described in the VCS Joint PD&MR. As per the sampling survey conducted in May 2024 applicable for current MP, 100% cookstove are found operational and no baseline cookstove were found in any sample selected by PP and VVB. For all the monitoring parameters the monitoring requirements and procedure is followed as established in section 6.2 and 7.1 of VCS Joint PD&MR and it is found to be correct by VVB through onsite inspection, site personnel interview and site observations.

	No Discrepancy between the actual monitoring system, and the monitoring plan set out in the VCS Joint PD&MR and the applied methodology is found in the current joint validation and verification.
AFOLU-specific project implementation	Since this is not a AFOLU project, hence this section is not applicable

4.2 Accuracy of Reduction and Removal Calculations

Applus+ Certification team has assessed the project completely and found that PP has applied the methodology and all other methodological tools correctly for current joint validation and verification. The emission reductions of the project activity are calculated using the formulae mentioned in the applied methodology AMS-II. G version 09.0 /28/.

Assessment team has also reviewed the Ex-post emission reduction spread sheets /2/ and checked all the formulae and assumptions applied by PP and found them to be correct and are in accordance with the monitoring plan and the applied monitoring methodology /28/.

The emissions reduction calculation is clearly presented by PP in Ex-post ER spread sheet/2/ and section 5.4 and 7.5 of VCS Joint PD & MR and assessed by VVB in section 3.4.6 of this report. As per the applied methodology AMS-II. G. version 09.0/28/, the necessary confidence/precision of 95/10 for the parameters have been met. PP has used monitored data and ex-ante fixed data including default values as mandated/permitted by the applied methodology. The values used for calculation of GHG emission reductions have been thoroughly checked by the assessment team and was found appropriate and correct.

Comparison of Ex-ante emission reductions and achieved emissions reduction:

Emission reductions achieved during the current monitoring period is compared with the estimated emission reduction for the current monitoring period as below section 5.4 of this report. This was verified from the MR/01/, ER spreadsheet/02/ and Monitoring Survey Report provided by PP and assessed by the assessment team as stated above.

The assessment team has checked and confirmed the emission reduction calculations in the spreadsheet and found to be accurate. The monitoring report/01/ is supported by emission reduction spreadsheet/02/. The consistency and formula were verified and found to be accurate.

4.3 Quality of Evidence to Determine Reductions and Removals

Assessment team verifies from the assessment of VCS Joint PD & MR/1/ and all evidences submitted to VVB that the reported emission reductions are correctly calculated and assumed in the project activity. In above sections of this report the assessment is done thoroughly with respect to validation and verification of the project. All source documents that form the basis for assumptions and other information underlying the GHG data are described above.

All records needed for monitoring are archived in line with the requirements of the proposed and registered monitoring plan. No significant, lack of evidence and missing data were detected during joint validation and verification. Hence, the assessment team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data.

Also, the cross-checks have been performed on the reported data with different source of evidence. The information flow from data generation and aggregation, to recording, calculation and final reporting into the monitoring report has been assessed by VVB in above sections for each parameter.

Therefore, it is concluded that the evidence provided are verified as sufficient and quality is appropriate and thus the evidence can be used to determine the GHG emission reductions and removals for this monitoring period. So, Applus+ Certification is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is line with the applicable VCS requirements and that the verification of the GHG statement was conducted in in accordance with ISO 14064-3:2019.

5 VALIDATION AND VERIFICATION OPINION

5.1 Validation and Verification Summary

Korea Carbon Management Ltd (hereafter referred as KCM) has commissioned LGAI Technological Center, S.A. (hereafter referred as Applus+ Certification) to carry out the Joint Validation and verification under VCS of the project “Madagascar Improved Cook Stove Project by KCM-Wood#CPA-W-030” (VCS ID 2794) for the first monitoring period from **21-April-2022 to 30-April-2024 (Both dates Included) is 692,366 tCO₂e**. The GHG statement is the responsibility of the project proponent.

The group project has fixed crediting period of 10 years from **21-April-2022 to 29-February-2032** (inclusive of both dates, which comes to an effective crediting period of 9.87 years in line with the para 3.9.7 of the VS v4.7); thus the estimated emissions reduction are validated as follows:

Instance Reference	Annualized Average instance wise	Actual Year fraction of Crediting Period applicable	Total of annualized avg. across effective Crediting Periods
	Emission Reduction (tCO ₂ eq)		Emission Reduction (tCO ₂ eq)
Instance 1	41510	9.87	409644
Instance 2	40946	9.73	398575
Instance 3	40704	9.68	393877
Instance 4	40012	9.51	380609
Instance 5	39125	9.30	363914
Instance 6	38721	9.21	356450
Instance 7	41873	9.05	378919
Instance 8	41085	8.88	364813
Instance 9	40149	8.68	348358
Instance 10	39931	8.63	344614
Total	404,056		3,739,774
Average	40,406		373,977

Details have been verified in ER sheet /2/ (Refer: TAB Ex-ante__Emission Reduction, CELL BL27 to BL39).

Based on the reviewing the documented evidence and by an on-site assessment, Applus+ Certification confirms that:

- The baseline scenario is correctly defined as per the applied methodology and relate tools;
- The project is additional;
- All data and information used for ex-ante calculation of emission reductions is of projected nature;
- The monitoring plan in the validated Joint PD & MR is as per the applied baseline and monitoring methodology.

- The project has been implemented and operated as per the VCS Joint PD&MR;
- The project complies with the validation and verification criteria for projects set out in VCS Standard Version 4.7;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS requirement and AMS-II.G version 9.0;
- the monitoring is in place as per the applied baseline and monitoring methodology AMS-II.G version 9.0
- the monitoring complies with the monitoring plan in the VCS Joint PD&MR;

It is certified that the GHG emission reductions from the project during the current monitoring period from 21-April-2022 to 30-April-2024 amount as follows: 692,366 tCO₂e. The verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. As per VCS standard version 4.7, clause 4.1.23, 4.1.24 and 4.1.25, Applus+ Certification is of opinion that GHG emission reduction stated in the VCS Joint PD & MR/1/ and Ex-post ER Sheet version 1.0/2/ for the grouped project during current monitoring period are fairly and correctly stated and they have planned and performed the joint validation and verification by obtaining evidence and other information and explanations that VVB considered necessary to give reasonable of assumptions and reasonable level of assurance.

5.2 Validation Conclusion

VVB has assessed the VCS Joint PD & MR/1/ thoroughly and other supporting documents as required to assess the project and followed the process as explained in above sections, thus VVB confirms that the data and information supporting the GHG statement were reasonably correct to determine the grouped project's estimates based on the proposed assumptions.

This grouped project is already implemented by PP as verified from the supporting evidences provided.

All the assumptions, calculations and methods employed to determine validity of the claim made by the PP (the GHG estimates, *i.e.* estimated emission reductions) are found to be correct and without relevant limitations (as per the applied and approved methodology) to support the outcome of future activities made by the grouped project.

Considering the above-mentioned, the VVB hereby gives a positive opinion about the grouped project.

Shall be considered that the actual results may vary since the estimates are based on assumptions that are subject to change during project's lifetime.

Crediting Period: From [21-April-2022] to [29-February-2032]

Validated estimated GHG emission reductions and carbon dioxide removals for the group project crediting period:

Vintage period	Estimated baseline emissions (tCO ₂ e)	Estimated project emissions (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated reduction VCUs (tCO ₂ e)	Estimated removal VCUs (tCO ₂ e)	Estimated total VCUs (tCO ₂ e)
Year 2022 21-April-2022 to 31-December-2022	32,325	0	0	32,325	0	32,325
Year 2023 01-January-2023 to 31-December -2023	46,270	0	0	46,270	0	46,270
Year 2024 01-January-2024 to 31-December 2024	46,397	0	0	46,397	0	46,397
Year 2025 01-January-2025 to 31-December -2025	46,270	0	0	46,270	0	46,270
Year 2026 01-January-2026 to 31-December -2026	46,270	0	0	46,270	0	46,270
Year 2027 01-January-2027 to 31-December-2027	46,270	0	0	46,270	0	46,270
Year 2028 01-January-2028 to 31-December 2028	46,397	0	0	46,397	0	46,397
Year 2029 01-January-2029 to 31-December -2029	46,270	0	0	46,270	0	46,270
Year 2030 01-January-2030 to 31-December-2030	46,270	0	0	46,270	0	46,270
Year 2031 01-January-2031 to 31-December-2031	46,270	0	0	46,270	0	46,270
Year 2032 01-January-2032 to 29-February-2032	7,606	0	0	7,606	0	7,606
Total	456,614	0	0	456,614	0	456,614

For projects required to assess permanence risk:

i) Provide a conclusion on the following information:

The non-permanence risk rating (%)	NA
If applicable, the Long-term Average (LTA), whether it has been properly updated, and if it has been reached.	NA

ii) Complete the table below for the project crediting period

Vintage period	Estimated baseline emissions (tCO ₂ e)	Estimated project emissions (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated buffer pool allocation (tCO ₂ e)	Estimated reductions VCUs (tCO ₂ e)	Estimated removals VCUs (tCO ₂ e)	Estimated total VCU issuance (tCO ₂ e)
DD-MMM-YYYY to 31-Dec-YYYY	NA	NA	NA	NA	NA	NA	NA
Total	NA	NA	NA	NA	NA	NA	NA

5.3 Verification conclusion

The grouped project has been assessed by VVB to reach the reasonable level of assurance and confirms that the quantity of GHG emission reductions and carbon dioxide removals in tCO₂ equivalents achieved by the project during the verification period as provided in the project's GHG statement is found correct after thorough assessment of ER sheet and other supporting documents provided by PP.

Verification Period: From [21-April-2022] to [30-April-2024]

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

Instances ¹⁰	Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCUs (tCO ₂ e)	Removal VCUs (tCO ₂ e)	Total VCUs (tCO ₂ e)
Instance 1 (CPA 31)	Year 2022 (21-April-2022 to 31-December-2022)	34,961	0	0	34,961	0	34,961

¹⁰ This column is added by VVB to show the Instance wise variation in ERs for each instance in each vintage year

	Year 2023 (01-January-2023 to 31-December-2023)	50,041	0	0	50,041	0	50,041
	Year 2024 (01-January-2024 to 30-April-2024)	16,589	0	0	16,589	0	16,589
	Total (21-April-2022 to 30-April-2024)	101,591	0	0	101,591	0	101,591
Instance 2 (CPA 33)	Year 2022 (09-June-2022 to 31-December-2022)	28,092	0	0	28,092	0	28,092
	Year 2023 (01-January-2023 to 31-December-2023)	49,775	0	0	49,775	0	49,775
	Year 2024 (01-January-2024 to 30-April-2024)	16,364	0	0	16,364	0	16,364
	Total (09-June-2022 to 30-April-2024)	94,231	0	0	94,231	0	94,231

Instance 3 (CPA 35)	Year 2022 (30-June-2022 to 31-December-2022)	24,976	0	0	24,976	0	24,976
	Year 2023 (01-January-2023 to 31-December-2023)	49,277	0	0	49,277	0	49,277
	Year 2024 (01-January-2024 to 30-April-2024)	16,200	0	0	16,200	0	16,200
	Total (30-June-2022 to 30-April-2024)	90,453	0	0	90,453	0	90,453
Instance 4 (CPA 37)	Year 2022 (29-August-2022 to 31-December-2022)	16,706	0	0	16,706	0	16,706
	Year 2023 (01-January-2023 to 31-December-2023)	48,780	0	0	48,780	0	48,780
	Year 2024 (01-January-2024 to 30-April-2024)	16,037	0	0	16,037	0	16,037

		Total (29-August-2022 to 30-April-2024)	81,523	0	0	81,523	0	81,523
Instance 5 (CPA 39)		Year 2022 (14-November-2022 to 31-December-2022)	7,015	0	0	7,015	0	7,015
		Year 2023 (01-January-2023 to 31-December-2023)	53,341	0	0	53,341	0	53,341
		Year 2024 (01-January-2024 to 30-April-2024)	17,537	0	0	17,537	0	17,537
		Total (14-November-2022 to 30-April-2024)	77,893	0	0	77,893	0	77,893
Instance 6 (CPA 41)		Year 2022 (19-December-2022 to 31-December-2022)	1,686	0	0	1,686	0	1,686
		Year 2023 (01-January-2023 to 31-December-2023)	47,350	0	0	47,350	0	47,350

		Year 2024 (01-January-2024 to 30-April-2024)	15,568	0	0	15,568	0	15,568
		Total (19-December-2022 to 30-April-2024)	64,604	0	0	64,604	0	64,604
Instance 7 (CPA 30)		Year 2023 (14-February-2023 to 31-December-2023)	40,373	0	0	40,373	0	40,373
		Year 2024 (01-January-2024 to 30-April-2024)	14,367	0	0	14,367	0	14,367
		Total (14-February-2023 to 30-April-2024)	55,010	0	0	55,010	0	55,010
Instance 8 (CPA 43)		Year 2023 (17-April-2023 to 31-December-2023)	51,055	0	0	51,055	0	51,055
		Year 2024 (01-January-2024 to 30-April-2024)	1,958	0	0	1,958	0	1,958
		Total (17-April-2023 to 30-April-2024)	53,013	0	0	53,013	0	53,013

	30-April-2024)						
Instance 9 (CPA 32)	Year 2023 (30-June-2023 to 31-December-2023)	22,459	0	0	22,459	0	22,459
	Year 2024 (01-January-2024 to 30-April-2024)	13,821	0	0	13,821	0	13,821
	Total (30-June-2023 to 30-April-2024)	36,280	0	0	36,280	0	36,280
Instance 10 (CPA 45)	Year 2023 (17-July-2023 to 31-December-2023)	22,031	0	0	22,031	0	22,031
	Year 2024 (01-January-2024 to 30-April-2024)	15,737	0	0	15,737	0	15,737
	Total (17-July-2023 to 30-April-2024)	37,768	0	0	37,768	0	37,768
For All 10 Instances	Total	692,366	0	0	692,366	0	692,366

For projects required to assess permanence risk:

i) Provide a conclusion on the following information:

The non-permanence risk rating (%)	NA
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If applicable, the Long-term Average (LTA), whether it has been properly updated, and if it has been reached.	NA
Whether a loss has been appropriately accounted for, in accordance with the VCS Program rules, if applicable.	NA

ii) Complete the table below:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Buffer pool allocation (tCO ₂ e)	Reductions VCU (tCO ₂ e)	Removals VCU (tCO ₂ e)	Total VCU issuance (tCO ₂ e)
DD-MMM-YYYY to 31-Dec-YYYY	NA	NA	NA	NA	NA	NA	NA
Total	NA	NA	NA	NA	NA	NA	NA

5.4 Ex-ante vs Ex-post ERR Comparison

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year:

Instances ¹¹	Vintage period	Ex-ante estimated reductions/removals	Achieved reductions / removals	Percent difference	Explanation for the difference
Instance 1 (CPA 31)	Year 2022 (21-April-2022 to 31-December-2022)	93,934	34,961	8.15%	Marginally higher due to 100% results of the ex-post parameters
	Year 2023 (01-January-2023 to 31-December-2023)		50,041		
	Year 2024 (01-January-2024 to 30-April-2024)		16,589		

¹¹ This column is added by VVB to show the Instance wise variation is ERs for each instances in each vintage year

	Total (21-April-2022 to 30-April-2024)		101,591		
Instance 2 (CPA 33)	Year 2022 (09-June-2022 to 31-December-2022)	93,934	28,092	0.32%	Marginally higher due to 100% results of the ex-post parameters
	Year 2023 (01-January-2023 to 31-December-2023)		49,775		
	Year 2024 (01-January-2024 to 30-April-2024)		16,364		
	Total (09-June-2022 to 30-April-2024)		94,231		
Instance 3 (CPA 35)	Year 2022 (30-June-2022 to 31-December-2022)	93,934	24,976	-3.71%	Marginally lower due to the impact of year fraction of ICS operation during the current MP
	Year 2023 (01-January-2023 to 31-December-2023)		49,277		
	Year 2024 (01-January-2024 to 30-April-2024)		16,200		
	Total (30-June-2022 to 30-April-2024)		90,453		
Instance 4 (CPA 37)	Year 2022 (29-August-2022 to 31-December-2022)	93,934	16,706	-13.21%	Lower due to reduced year fraction of ICR operation during the current MP
	Year 2023 (01-January-2023 to 31-December-2023)		48,780		
	Year 2024 (01-January-2024 to 30-April-2024)		16,037		
	Total (29-August-2022 to 30-April-2024)		81,523		
Instance 5 (CPA 39)	Year 2022 (14-November-2022 to 31-December-2022)	93,934	7,015	-17.08%	Lower due to reduced year fraction of ICR operation

	Year 2023 (01-January-2023 to 31-December-2023)		53,341		during the current MP
	Year 2024 (01-January-2024 to 30-April-2024)		17,537		
	Total (14-November-2022 to 30-April-2024)		77,893		
Instance 6 (CPA 41)	Year 2022 (19-December-2022 to 31-December-2022)	93,934	1,686	-31.22%	Lower due to reduced year fraction of ICR operation during the current MP
	Year 2023 (01-January-2023 to 31-December-2023)		47,350		
	Year 2024 (01-January-2024 to 30-April-2024)		15,568		
	Total (19-December-2022 to 30-April-2024)		64,604		
Instance 7 (CPA 30)	Year 2023 (14-February-2023 to 31-December-2023)	93,938	40,373	-41.44%	Lower due to reduced year fraction of ICR operation during the current MP
	Year 2024 (01-January-2024 to 30-April-2024)		14,367		
	Total (14-February-2023 to 30-April-2024)		55,010		
Instance 8 (CPA 43)	Year 2023 (17-April-2023 to 31-December-2023)	93,934	51,055	-43.56%	Lower due to reduced year fraction of ICR operation during the current MP
	Year 2024 (01-January-2024 to 30-April-2024)		1,958		
	Total (17-April-2023 to 30-April-2024)		53,013		
Instance 9 (CPA 32)	Year 2023 (30-June-2023 to	93,938	22,459	-61.38%	Lower due to reduced

Instance 10 (CPA 45)	31-December-2023)				year fraction of ICR operation during the current MP
	Year 2024 (01-January-2024 to 30-April-2024)		13,821		
	Total (30-June-2023 to 30-April-2024)		36,280		
	Year 2023 (17-July-2023 to 31-December-2023)	93,934	22,031	-59.79%	Lower due to reduced year fraction of ICR operation during the current MP
	Year 2024 (01-January-2024 to 30-April-2024)		15,737		
	Total (17-July-2023 to 30-April-2024)		37,768		

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

No Commercial sensitive information is provided by PP in the VCS Joint PD & MR/1/ submitted to VVB, hence this section is not applicable

Section	Information	Justification	Assessment method conclusion
NA	NA	NA	NA

APPENDIX 2: DOCUMENTS REFERRED

S. No.	Title of Document	Provided by
1.	VCS Joint PD & MR for project “Madagascar Improved Cook Stove Project by KCM-Wood#CPA-W-030” - Draft Version 1.0, dated 25-February-2024 - Version 02 dated 05-August-2024 - Version 03 dated 14-February-2025 - Version 03.1 dated 23-May-2025 - Version 04 dated 05-August-2025	KCM
2.	Ex-ante and Emission Reduction Calculation sheet - Version 01 dated 05-August-2024 - Version 02 dated 14-February-2025 - Version 03 dated 12-April-2025 - Version 04 dated 05-August-2025	KCM
3.	Sampling Survey sheet for current monitoring period	KCM
4.	Household sampling survey sheet for all 10 Instances	KCM
5.	Spot Check Evaluation forms on sample basis	KCM
6.	End user agreement between PP and beneficiary of selected samples	KCM
7.	Baseline scenario survey photos	KCM
8.	f _{NRB} Sheet	KCM
9.	Focused group discussion document and photographs	KCM
10.	Manufacturer specification of “Lamasinina” and “SoaRehitra” Cookstove	KCM
11.	Lab Test report of the of “Lamasinina” and “SoaRehitra” Cookstove	KCM
12.	Project installation database	KCM
13.	Photographs of TLC Brochure taken at site by VVB	KCM
14.	Sample Sales Invoice	KCM
15.	Employment records of people employed	KCM

16	Attendance sheet and presentation for data collection training during survey	KCM
17	Grievance policy and records	KCM
18	Focused Group Discussion conducted during onsite visit by assessment team from 27-May-2024 to 30-May-2024	KCM
19	MOU for Baseline fuel consumption survey in Households, in republic of Madagascar, followed by Implementation and Management support for future projects/Programs between WeAct Pty. Ltd., NGO Tandavanala & Korea Carbon Management (KCM)	KCM
20	Training Records of the people trained in current monitoring period	KCM
21	Declaration for No Double Counting and no Scope-3 emissions involved by the project activity and PP confirms that it follows and fully respects human rights as applicable by the VCS standard dated 30-July-2024.	KCM
22	<u>UNFCCC: Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities, Ver. 4.0</u>	UNFCCC
23	<u>UNFCCC: Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 09.0</u>	UNFCCC
24	<u>VCS Program Guide, version 4.4 dated 29-August-2023</u>	VCS
25	<u>VCS Standard, version 4.7 dated 16-April-2024</u>	VCS
26	<u>Monitoring report Template VCS Version 4.4</u>	VCS
27	Exemption Letter VCS 2794 dated 06-February-2025	VCS & KCM
28	<u>AMS-II.G- Energy efficiency measures in thermal applications of non-renewable biomass v09.0</u>	CDM
29	<u>Tool 30 v3.0 - Calculation of the fraction of non-renewable biomass</u>	CDM
30	<u>ISO 14065:2020: General principles and requirements for bodies validating and verifying environmental information</u>	ISO
31	<u>ISO 14064-3:2019: Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements</u>	ISO
32	<u>Validation and verification manual version 3.2 dated 19-October-2016</u>	VCS
33	<u>CDM Validation & Verification Standard version 3.0 dated 09-September-2021</u>	CDM

34	<u>VCS Program Definitions version 4.5 dated 16-April-2024</u>	VCS
35	Onsite visit and Interviews conducted by VVB during onsite visit dated from 27-May-2024 to 30-May-2024	VVB
36	<u>CDM TOOL 33- Default values for common parameters version 2.0</u>	CDM
37	KML files of projects instances in group project	KCM

APPENDIX 3: ABBREVIATIONS

Abbreviations	Full texts
AFOLU	Agriculture, Forestry and Other Land Use
BE	Baseline Emissions
BEF	Baseline Emission Factor
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
HH	Household
IPCC	Intergovernmental Panel on Climate Change
KCM	Korea carbon Management

MoV	Means of Verification
MR	Monitoring Report
NA	Not Applicable
OSV	On Site Visit
PDD	Project Design Document
PP(s)	Project Proponent(s)
QA/QC	Quality Assurance /Quality Check
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VCS	Verified Carbon Standard
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX 4: AUDIT FINDINGS

CAR	CR	FAR
02	03	00

CR for this Validation & Verification

CR ID	01	Section no.	Title Page & Section 1	Date : 15/07/2024
Description of CR				
- During desk review it was found that the project is linked to the project activity related to CPA-30 only and PD available on the project webpage also refers to 1 CPA only; kindly clarify how this project ID is valid for this project activity? - PP is requested to clarify the type of activity being performed here as the template used by PP is for “Joint Validation and Verification” and the activity stated here is only “validation”. - Kindly clarify which registry CPA inclusion date is mentioned in section 1.2 and also this date is specific to which CPA and if it is so why one CPA inclusion date is mentioned here? - How is the start date of crediting period chosen before the start date of the project activity by PP in section 1.10? - The co-ordinates provided are representative of which region in Section 1.13? - The map shows the location of all CPAs from CPA 30 to CPA 47 which are not part of the grouped project activity, hence this map is not limited to the current project activity under consideration. - Which VCS PD is PP referring to and Is the reference of this PD valid for all CPA included in this project activity?				
Project participant response				Date : 12/08/2024
- As per VCS Standard 4.7 para 3.23.9 (2), “Multiple CPAs registered under the CDM that have the same project proponent, the same project activity, and occur within 10 km of one another shall register under the VCS as a single project.” The project activity satisfies this condition. Therefore, we considered multiple CPAs (10 CPAs) as single project i.e. grouped project activity. CPA30 (VCS 2794) is the earliest inclusion under CDM. Therefore, VCS 2794 has been considered as the project title. - Joint PD & MR has been revised - Joint PD & MR revised accordingly - Joint PD & MR revised accordingly - Joint PD & MR revised accordingly - Joint PD & MR revised accordingly - Joint PD & MR revised accordingly				
Documentation provided by project participant				

- All supporting documents - Updated VCS Joint PD&MR, version 02, 05 Aug 2024 - Updated ER sheet, version 01, 05 Aug 2024	
VVB assessment	Date: 31/08/2024
1. The clarification has been provided by PP regarding the name of the project activity and it is found to be correct by VVB with the registered project on VERRA webpage. Hence accepted. 2. PP has revised the document and statement now clearly shows that that project is undergoing both Validation and Verification. 3. PP has revised the document and CPA inclusion date is mentioned correctly in the revised VCS Joint PD&MR submitted by PP. 4. PP has clarified and corrected the start date of crediting period in the revised VCS Joint PD&MR submitted by PP in section 1.10. 5. PP has clarified and corrected the co-ordinates provided in Section 1.13 in the revised VCS Joint PD&MR submitted by PP. 6. PP has corrected the map and now it only shows the location of CPAs which are part of the grouped project activity, hence accepted. 7. PP has clarified in the updated VCS Joint PD&MR submitted for assessment that the same report is referred, hence accepted. Hence CR ID#01 is Closed	

CR ID	02	Section no.	Joint PD & MR	Date : 15/07/2024
Description of CR				
PP is requested to provide the following documents: 1. ER sheet to cross verify the values in the Joint PD & MR. 2. Efficiency Test report of both ICS 3. Evidence for the Lifetime of the ICS 4. Contractual agreement between Project Participant with each beneficiary. 5. Evidence to confirm the start date of project activity. 6. KML file to verify the location 7. Evidence to confirm no double claiming with emission trading program and other forms of environmental credits. 8. Evidence to confirm the statement about Scope-3 emissions in section 1.17.3. 9. Declaration that no discrimination, sexual harassment, forced labor, child labor and human trafficking is happening in the project activity as stated by PP in Section 2.3.1 of the report. 10. Salary records of the people employed under project activity 11. CPA wise Distribution Database and Grouped project database 12. Sampling survey Records 13. Sample survey sheet. 14. Individual ICS registration documents 15. Copy of Consent Letter 16. SDG Survey report				

Project participant response	Date : 12/08/2024
1. Submitted 2. Submitted 3. Submitted 4. Submitted 5. Submitted 6. The location details of each ICS are already included under the ICS database for each Instance (i.e. each CPA). A KML file has been generated for the entire Grouped Project activity and submitted to VVB for reference and the same will also to be uploaded in VERRA site. 7. Submitted 8. Submitted 9. Submitted 10. Submitted 11. Submitted 12. Submitted 13. Submitted 14. Submitted 15. Submitted 16. Submitted	
Documentation provided by project participant	
- All supporting documents - Updated VCS Joint PD&MR, version 02, 05 Aug 2024 - Updated ER sheet, version 02, 05 Aug 2024	
VVB assessment	Date: 31/08/2024
PP has provided all the documents required for assessment and they are found to be consistent and correct by the VVB. Hence CR ID#02 is Closed	

CR ID	03	Section no.	2, 3 & 7	Date : 15/07/2024
Description of CR				
1. During onsite interview with the ground staff, it was identified that regular feedback is taken; why quarterly feedback is mentioned by PP in section 2.1.2, please clarify. 2. PP is requested to clarify why two methodologies are stated here; are both methodologies applied or only one is applicable? 3. PP to clarify are these values applicable for all the instances it encompasses in Section 7.1.				
Project participant response				Date : 12/08/2024

1. PP would like to clarify that feedback is a regular process to avoid any kind of gap in communication. However, at program level quarterly feedback is established as a recording practice. 2. PP would like to clarify that as per the VERRA rules and requirements, the current project validation to be done using the VERRA methodology VRM0006; however, this methodology by default refers to CDM Methodology AMS-II.G for all the primary and basic equations and referrals. Hence both the methodologies are mentioned under the VCS Joint PD&MR. 3. All the values are now updated in line with the revised ER calculation and required revisions are done under the Section 7.1 of the Join PD MR.	
Documentation provided by project participant	
- All supporting documents - Updated VCS Joint PD&MR, version 02, 05 Aug 2024 - Updated ER sheet, version 02, 05 Aug 2024	
VVB assessment	Date: 31/08/2024
1. PP has updated the statement in revised document as per the actual scenario, hence accepted. 2. PP has clarified that primarily the VCS methodology is in use and that meth is derived and uses CDM meth, hence both have been referred, which is found to be correct, hence accepted. 3. PP has updated these values applicable for all the instances in revised document as per the ER sheet submitted and it is found to be correct, hence accepted.	
Hence CR ID#03 is Closed	

CAR from this Validation & Verification

CAR ID	01	Section no.	Content & Section 1	Date : 15/07/2024
Description of CAR				
1. During desk review it has been identified that “Title of Appendix” is mentioned by PP in content table and extra Appendix title is also available in this report. 2. As per the guidelines of VCS Joint PD & MR - information related to “implementation status and relevant implementation dates” is not found in this section. 3. PP to provide a sum total value of the ERs for clarity in section 1.1. 4. As per the guideline the period needs to be mentioned in this section, which is not provide by PP in Section 1.2. 5. During desk review it was identified that the guideline “Provide information to demonstrate that the project meets requirements related to the pipeline listing deadline, the opening meeting with the validation/verification body, and the validation deadline” is not fulfilled in section 1.4.1 by PP. 6. During Desk review it was identified that the guideline stated in this clause of Table in Section 1.4.1 relates to projects registered under CDM- there is no particular specification provided related to “CDM PoA”. 7. PP to demonstrate which CPA uses which type of stove for better clarity in Section 1.12. 8. According to the template filling guidelines for Section 1.18.1it should include <i>“A summary description of project activities that result in sustainable development (SD) contributions (i.e., technologies/measures implemented, activity location). An explanation of how project activities will result in expected SD contributions. A description of how the project contributes to achieving any nationally stated sustainable development priorities, including any provisions for monitoring and reporting these”</i> should be there which were found incomplete in this section 9. The contributions stated by PP are depicting value for 1 CPA only, this is not inclusive of all the CPA which are part of the grouped project activity in Section 1.18.2. 10. Since the project stat date is from April 2022 when the global pandemic effect was almost none; how those contributions can be claimed in current monitoring period for SDG 3 which is beyond that date of monitoring period and project start date.				
Project participant response				Date : 12/08/2024
1. Joint PD & MR has been revised 2. Joint PD & MR has been revised accordingly 3. Section 1.1 of Joint PD & MR has been revised 4. Section 1.2 of Joint PD & MR has been revised 5. Section 1.4.1 of Joint PD & MR has been revised accordingly 6. Joint PD & MR has been revised 7. Section 1.12 of Joint PD & MR has been revised 8. Section 1.18 of Joint PD & MR has been revised 9. Joint PD & MR has been revised 10. Joint PD & MR has been revised				
Documentation provided by project participant				

- All supporting documents - Updated VCS Joint PD&MR, version 02, 05 Aug 2024 - Updated ER sheet, version 02, 05 Aug 2024	
VVB assessment	Date: 31/08/2024
1. PP has updated the VCS Joint PD & MR and now the corrections in the content table have been made and found to be correct in the updated document. 2. PP has updated the VCS Joint PD & MR and now information related to “implementation status and relevant implementation dates” is found in this section in the updated document. 3. PP has updated the VCS Joint PD & MR and now provided a sum total value of the ERs for clarity in section 1.1. 4. PP has updated the VCS Joint PD & MR and the period is mentioned in this section, section 1.2 in the updated document. 5. PP has updated the VCS Joint PD & MR and the guidelines have now been followed in the revised document and the required details have been included in updated document. 6. PP has updated the VCS Joint PD & MR and provided the reference related related to “CDM PoA” in the revised document. 7. PP has updated the VCS Joint PD & MR and included the table which clearly shows the type of stove for better clarity in Section 1.12. 8. PP has updated the VCS Joint PD & MR and included the details on the summary description for SDGs in revised document which is found to be correct. 9. PP has updated the VCS Joint PD & MR and now mentioned the contributions for all the CPAs which are part of the grouped project activity in Section 1.18.2. 10. PP has updated the VCS Joint PD & MR and removed that claim from the table and hence accepted.	
Hence CAR ID#01 is Closed	

CAR ID	02	Section no.	2, 5 & 7	Date : 15/07/2024
Description of CAR				
1. Is there any recent stakeholder meeting conducted specific to this project activity? 2. During site visit some grievances were observed in the grievance register placed at the site, why section 2.1.4 states that there are no grievances in current monitoring period. 3. As per the filling guidelines for Section 2.3.5, PP needs to give information about the benefit sharing plan according to guidelines and no guideline for this section states anything about land rights. 4. The statement provided about non-accounting of Project emissions is not in coherence with the applied methodology in Section 5.2 of the report. 5. As per the description in section 5.1 of this report there are no baseline emissions only net is calculated, then these values should have been zero in section 5.4. 6. PP to show the positive/negative symbol to show the higher/lower ERs along with percentage as unit as per the requirement in section 7.5.				
Project participant response				Date : 12/08/2024

1. The project activity registered as CPA-PoA under CDM, stakeholders consultation was already conducted during CDM phase followed by regular feedback, sessions, trainings, FGDs etc. with the beneficiaries and across the communities. Thus, separate stakeholders' consultation meeting was not conducted. Although, as mentioned above, PP has conducted some consultation within the community on regular basis. Details will be shared with VVB for joint validation & verification 2. There was some positive remark/ comment received during the current monitoring period, there was no negative remark or grievance related input reported within current monitoring period. However, PP keeps the provision of recording any input (irrespective of it's a grievance or positive comment) in the register as per standard practice; the same can be verified from the register copy. This was also made available to audit team during the visit. 3. In the filling guidelines, it has been mentioned that "Where the project impacts property rights ..., use the table below to describe the project's benefit sharing agreement." Project activity does not have any impact on property rights. Therefore, this table is not applicable for this project activity. 4. Joint PD & MR has been revised 5. Joint PD & MR has been revised 6. Joint PD & MR has been revised	
Documentation provided by project participant	
- All supporting documents - Updated VCS Joint PD&MR, version 02, 05 Aug 2024 - Updated ER sheet, version 02, 05 Aug 2024	
VVB assessment	Date: 31/08/2024
1. No, PP has clarified that no new stakeholder meeting conducted specific to this project activity, the previous details have been revised to give more clarity hence accepted. 2. PP have revised the report and the statement now includes the positive inputs that were received in current monitoring period in the revised report. 3. PP has clarified that there are no benefit sharing plan in place for this project activity and same is stated and found to be correct. 4. The statement is revised and now it is found to be correct and consistent with the applied methodology in revised document. 5. PP has revised section 5.1 in the updated document submitted to VVB and found to be correct. 6. PP has revised VCS Joint PD & MR and now it clearly shows the positive/negative symbol to show the higher/lower ERs along with percentage as unit as per the requirement in section 7.5.	
Hence CAR ID#02 is Closed	

FAR from this Validation & Verification

FAR ID	XX	Section No.	XX	Date: DD/MM/YYYY
Description of FAR				
NA				
Project participant response				Date: DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
VVB assessment				Date: DD/MM/YYYY
NA				

APPENDIX 5: COMPETENCE STATEMENT OF TEAM MEMBERS

According to the sectoral scope / technical area and experience in the sectoral or national business environment, Applus+ Certification has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of Applus+ Certification.

The composition of audit team shall be approved by the Applus+ Certification ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology shall be covered by the assessment team.

Name	Qualification	Coverage of scope	Coverage of technical Area	Financial aspect	Host country Experience	Attendance to the Assessment (on-site)
Vivek Kumar Ahirwar	Lead Auditor (LA)	Yes (3)	Yes (3.1)	N/A	Yes	Yes
Vivek Kumar Ahirwar	Technical Expert (TE)	Yes (3)	Yes (3.1)	N/A	Yes	Yes
Simon Shen	Technical Reviewer (TR)	Yes (3)	Yes (3.1)	N/A	N/A	N/A

The curricula vitae of the VVB's team members are provided below:

Vivek Kumar Ahirwar is a BEE-Certified Energy Auditor by Govt of India with over eight years of relevant experience in energy efficiency, energy audit, thermal and electrical energy generation technology from renewable source and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects in different states across the India. He has done Mater in Technology (Energy Management) from a premier institute, School of Energy & Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from Govt. Engineering college, Rewa, RGPV, India.

Simon Shen (master degree in thermal energy engineering, bachelor degree in environmental engineering) is a lead auditor appointed by Applus+ certification for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ certification, he had been worked for TÜV SÜD as a GHG validator/verifier and ISO 9001/14001 lead auditor for 3.5years.