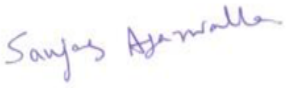
Verification and certification report form for Gold Standard project activities

BASIC INFORMATION	
Title and GS reference number of the project activity	TASC Clean Cooking PoA – VPA02 (Zimbabwe) (GS11551)
Scale of the project activity	☒ Large-scale ☐ Small-scale
Version number of the verification and certification report	1.4
Completion date of the verification and certification report	16/09/2024
Monitoring period number and duration of this monitoring period	3rd Monitoring period 23/07/2023 – 31/12/2023 (Inclusive)
Version number of the monitoring report to which this report applies	1.4, dated: 21/05/2024
Crediting period of the project activity corresponding to this monitoring period	VPA02- 23/09/2021 to 22/09/2026
Project representative(s)	The African Stove Company Ltd. (TASC)
Host Party	Zimbabwe
Applied methodologies and standardized baselines	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1
Mandatory sectoral scopes	03 (3.1)
Conditional sectoral scopes, if applicable	-
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered POA-DD/VPA-DDS	313,307 tCO_2e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	289,128 tCO_2e
SDG Impacts:	1. SDG 1: No poverty 2. SDG 3: Good health and wellbeing 3. SDG 5: Gender Equality 4. SDG 7: Affordable and Clean Energy 5. SDG 8: Decent work and Economic Growth 6. SDG 12: Responsible Consumption & Production 7. SDG 13: Climate Action

Name and UNFCCC reference number of the VVB	E-0052: Carbon Check (India) Private Limited
Name, position and signature of the approver of the verification and certification report	 Sanjay Kumar Agarwalla, Technical Director

SECTION A. Executive summary

Carbon Check (India) Private Ltd. (CCIPL) has performed the 3rd periodic verification of the VPA TASC Clean Cooking PoA – VPA 2 (Zimbabwe) and under GS4GG of their registered PoA titled "TASC Clean Cooking PoA" in "Zimbabwe". Project reference number: - PoA ID- GS11009, VPAs ID- GS11551, for the period 23/07/2023 – 31/12/2023 (inclusive). The VPA will stimulate the installation of Kuniokoa Model wood fuel cookstoves (hereafter ICS) manufactured by Burn Manufacturing LLC, with a thermal efficiency of 41.6%. /04/ For VPA 2 stoves were distributed from the date 23/09/2021. CME has distributed 261 ICSs in this monitoring period. /05/
The African Stove Company Ltd. (TASC) is the coordinating/managing entity (CME) of the PoA, Cicada Carbon Ltd. (Cicada) is a Project Participant and the MyTrees Trust (MyTrees) is the Implementer of the VPA./06/

According to the POA-DD/VPA-DDS /B04/ & MR /01/, the project activity " TASC Clean Cooking PoA – VPA 2 (Zimbabwe) " is part of the African Stove Company & is the VPA that is implemented in Zimbabwe. The overall objective of the VPA is to contribute to the achievement of the Sustainable Development Goals (SDGs) through the distribution of Improved Cookstoves (ICS) in households of Zimbabwe.

This report summarises the findings of the verification of the project, performed on the basis of the Gold standard for global goals (GS4GG), as well as criteria given to provide for consistent project operations, monitoring and reporting and the subsequent decisions by the Gold Standard. Verification is required for all registered GS project activities intending to confirm their achieved emission reductions and proceed with the request for issuance of CERs. This report contains the findings and resolutions from the verification and a certification statement for the verified emission reductions.

Verification is the periodic independent review and ex-post determination of both quantitative and qualitative information by a Validation & verification body (VVB), of the monitored reductions in GHG emissions that have occurred as a result of the project activity during a defined monitoring period.

Certification is the written assurance by a validation & verification body (VVB) that, during a specific period, a project activity achieved the emission reductions as verified.

The objective of this verification was to verify and certify emission reductions reported for the "TASC Clean Cooking PoA – VPA 2 (Zimbabwe)" in the host country "Zimbabwe" for the period 23/07/2023 – 31/12/2023 (inclusive).

The purpose of verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data and used to confirm the reductions in anthropogenic emissions by sources, are sufficient, definitive and presented in a concise and transparent manner. CCIPL's objective is to perform a thorough, independent assessment of the registered project activity.

In particular, the monitoring plan, monitoring report and the project's compliance with relevant GS and Host Party criteria are verified in order to confirm that the component project/s has/have been implemented in accordance with the previously registered project design /B04/ and conservative assumptions, as documented. It is also confirmed if the monitoring plan is in compliance with the registered PoA-DD/VPA-DD /B04/ and the approved monitoring methodology.

Scope:

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered PoA-DD/VPA-DDs

- To verify the implemented monitoring plan with the registered PoA-DD/VPA-DDs and applied baseline and monitoring methodology.
- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

Verification process:

The verification comprises a review of the monitoring report /01-4/ over the monitoring period from 23/07/2023 – 31/12/2023 (inclusive) and based on the registered PoA-DD/VPA-DDs/B04/ as part of the monitoring parameters and monitoring plan, emission reduction calculation spreadsheet, monitoring methodology, and all related evidence provided by project participants.

On-site interviews and inspections are also performed as part of the verification process.

Conclusion:

The verification team assigned by the validation & verification body (VVB) concludes that the monitoring report /01/, meets all relevant requirements of the Gold Standard as per the requirements of GS4GG. The verification has been conducted in line with the GS4GG requirements.

The project activity was correctly implemented according to the selected monitoring methodology, monitoring plan and the registered POA-DD/VPA-DDS /B04/. The monitoring system was installed, and maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. The following table provides the resulting emission reduction from the project as verified through the document review and on-site interviews by the verification team.

Vintage (VPA 2)	**ER (tCO_2e)**
23/07/2023 – 31/12/2023	**289,128 tCO_2e**

CCIPL as a Validation & verification body (VVB) is therefore pleased to issue a positive verification opinion expressed in the attached Certification statement.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings

1.	Team Leader / Verifier / Technical Expert	IR	Rajput	Jaya	CCIPL	X	X	X	X
2.	Trainee Assessor	IR	Bijani	Vishal	CCIPL	X	X	X	X
3.	Team Member	IR	Choudhary	Aparna	CCIPL	X			X
4.	Local Expert	ER	Mandishona	Liberty	CCIPL		X	X	

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	ER	Ranganathan	Seshan	CCIPL
2	Approver	IR	Agarwalla	Sanjay Kumar	CCIPL

SECTION C. Means of verification

C.1. Desk/document review

The verification was performed primarily based on the review of the Monitoring report /01/ and the supporting documentation. This process included a review of data and information presented to verify their completeness and a review of the monitoring plan and monitoring methodology. Documents reviewed or referenced during the verification are listed in Appendix 3 below.

C.2. On-site inspection

An onsite physical audit has been performed. The Team leader, trainee assessor and Local Expert have conducted the on-site inspection and in particular the simple random sampling.

Furthermore, VVB has considered the Site Visit and Remote Audit Requirements and Procedures, version 1.0/B06/ for conducting the onsite visit. In accordance with the requirements provided in the §3.1.1(b) of the Site Visit and Remote Audit Requirements and Procedures, version 1.0/B06/.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
/01/	Stead	Bianca	TASC	07/03/2024 – 09/03/2024	MR preparation, GS requirements, Emission reduction calculations, methodology applicability, start date justification, Project Design, ownership details, carbon credit ownership arrangements,	Jaya Rajput, Vishal Bijani, Liberty Mandishona

					monitoring and reporting arrangements, QA/QC procedures, baseline assessment, Project technology etc.	
/02/		Regina	My trees Trust	07/03/2024 – 09/03/2024	Details of survey, methodology, Survey results, QA/QC procedure etc.	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/03/		McDonald	My trees Trust	07/03/2024 – 09/03/2024	Details of survey, methodology, Survey results, QA/QC procedure etc.	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/04/	Chitsonga	Sean Love	My trees Trust	07/03/2024 – 09/03/2024	Details of survey, methodology, Survey results, QA/QC procedure etc.	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/05/		Welsie	My trees Trust	07/03/2024 – 09/03/2024	Details of survey, methodology, Survey results, QA/QC procedure etc.	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/06/		Tinei	My trees Trust	07/03/2024 – 09/03/2024	Details of survey, methodology, Survey results, QA/QC procedure etc.	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/07/		Receal	My trees Trust	07/03/2024 – 09/03/2024	Details of survey, methodology, Survey results, QA/QC procedure etc.	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/08/	Kamu	Eunice	KPT Survey Participant (ZM81079)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/09/	Chipo	Mugurasave	KPT Survey Participant (ZM98530)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/10/	Mona	Sarah	KPT Survey Participant (ZM36020)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/11/	Virginia	Kakuiramakomo	KPT Survey Participant (ZM101606)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/12/	Jogina	Kabandazi	KPT Survey Participant (ZM104598)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/13/	Matuvi	Florence	KPT Survey Participant (ZM91056)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/14/	Zogara	Lameck	KPT Survey Participant (ZM15547)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty

						Mandishona
/15/	Chirumazeni	Hamundide	KPT Survey Participant (ZM33279)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/16/	Chigayo	Cuthbert	KPT Survey Participant (ZM82469)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/17/	Madzivanyika	Wilson	KPT Survey Participant (ZM11690)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/18/	Tandi	Jenipher	KPT Survey Participant (ZM23415)	07/03/2024 – 09/03/2024	KPT Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/19/	Chadoka	Rumbidzai	Habit Survey Participant (ZM44611)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/20/	Sithole	Tnsh	Habit Survey Participant (ZM87393)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/21/	Beauty	Ngakato	Habit Survey Participant (ZM37050)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/22/	Kavhai	Lena	Habit Survey Participant (ZM29680)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/23/	Rangwani	Onismus	Habit Survey Participant (ZM92308)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/24/	Chiwau	Patuma	Habit Survey Participant (ZM26002)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/25/	Siamatanga	Tracy	Habit Survey Participant (ZM87183)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/26/	Pedzisai	Shylet	Habit Survey Participant (ZM95245)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/27/	Patience	Chipangura	Habit Survey Participant (ZM35271)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona
/28/	Mhondiwa	Virginia	Habit Survey Participant (ZM36798)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty

						Mandishona
/29/	Manyanga	Sarah	Habit Survey Participant (ZM36388)	07/03/2024 – 09/03/2024	Habit Survey	Jaya Rajput, Vishal Bijani, Liberty Mandishona

C.4. Application of materiality

Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human Error: Recording and reporting of the information in the ER spreadsheet.	*Medium*	*All the ER spreadsheet data of the ICSs including sales database, determination of parameters for efficiency testing including data calculation. This includes all the parameters to be monitored ex-post as per the PDD*	*The risk has been mitigated by reviewing the training records of the personnel involved in the data capture and calculations. The monitoring responsibilities were reviewed. Also, the ER data/calculations have been cross-checked to ensure the error free data.*
2.	Information System: Use of spreadsheets without adequate controls related to data changes/updates, version tracking, traceability, security	*Medium*	*The data is recorded in spreadsheets based on the raw data collected during the field visits. Access the spreadsheets for calculation of ERs, monitoring and sales database and baseline stove efficiency testing, project & baseline KPT, and other quality test records.*	*The identified risk has been mitigated by reviewing the management of access to the records. It has been confirmed through interviews whether the raw data is collected by the field personnel and then transmitted and stored electronically to the PP's office. The data quality control has been checked.*
3.	Accuracy of the measuring equipment	*High*	*Check the calibration records for the measurement equipment used for efficiency test.*	*The risk due to accuracy of the measuring equipment has been ensured by planning to check calibration certificates of the measuring equipment used for stove efficiency.*
4.	Sample	*Medium*	*The sample size is not suitable; or the surveyed houses are not random*	*Cross-check the procedure to identify the sample size against the sampling guideline and standard and confirm the sample size is calculated correctly.*
5.	Competence of personnel involved in conducting standardized tests viz., monitoring survey, WBT, Usage Survey, and another quality test etc.	*Low*	*Interview the personnel involved and check the training records/accreditation certificates involved in conducting such tests.*	*The risk has been mitigated by reviewing the training records/09/ of the personnel conducting such tests and following the monitoring responsibilities. The training records/09/ have been reviewed which also has been confirmed during the onsite interviews.*

C.5. Sampling approach

As the target population is homogeneous, PP has proposed a simple random sampling plan using 90/10 as confidence/precision. This is in line with the applied methodology /B02/. The sample size for each parameter is determined following guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0 /B05/ in accordance with paragraph 27 of the sampling standard.

In line with paragraph 27 of the Sampling Standard, the verification team has applied a simple random sampling approach through on-site interviews on the monitoring survey as part of verification. The project participant applied a sampling approach to the monitoring survey /16/, conducted by the representatives of other project participants. The verification team has chosen acceptance sampling in accordance with paragraph 27 of the sampling standard /B05/.

Applying paragraph 39 (c) of the sampling standard, version 09 /B05/, a sample size of 11 was Chosen for user habit survey , based on an AQL of 0.5% and UQL of 20%; producer risk 10% and consumer risk of 10% each in determining the VVB's sample size Acceptance number (c) thus determined for the sample is 0. A sample size of 11 was chosen for KPT survey /08/ based on an AQL of 0.5% and UQL of 20%; producer risk 10% and consumer risk of 10% each in determining the VVB's sample size Acceptance number (c) thus determined for the sample is 0.

The Information provided in the monitoring survey /16/, has been cross-checked during the Onsite visit. As a part of simple random sampling, the Verification team could confirm the monitoring survey data /11/ with no discrepant records. Thus, PP's set of records has been accepted in line with § 33 of the sampling standard, version 09 /B05/.

Parameter	Verification approach	Population (for VVB's sample)	VVB's Sample Size
Usage & monitoring surveys /07/	Sampling Survey	120	11
KPT Surveys/08/	Sampling Survey	51	11

The details of the sample interviewed are listed in section C.3 (under the list of interviewed persons). No discrepancy was found in any of the 11 samples for user habit survey and 11 samples for the KPT survey and thus c=0, i.e., no discrepant records were observed. Thus, PP's set of records has been accepted in line with §33 of the sampling standard (version 09.0) /B05/. For the impact parameters, a questionnaire was prepared and was used during the survey by the PP. During the on-site interviews, the verification team cross-checked these sample documents, and no discrepancies were found in the impact parameters as well. Furthermore, the training & competency of the personnel/09/, who conducted such tests were checked. They were also interviewed to ensure that the process, method used, and their competency to confirm such standardised tests were appropriately applied. The sampling technique to draw such samples was found adequate and the sample collectors were found competent to perform such task.

C.6. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

The VVB has raised 03 clarifications (CLs) and 04 corrective action requests (CARs) and satisfactorily closed. 00 forward action request (FAR) is also raised.

SECTION D. Verification findings

D.1. Remaining forward action requests from validation and/or previous verifications

The following FARs were raised during the 1st performance review:

FAR ID	**01 (1st performance review)**	**Section no.**	**NA**	**Date: NA**
Description of FAR				
FAR1: All future verifications, VVB shall describe clearly how they have assessed and the applied method of verification and type of interview questions for monitored SDGs to reach the conclusion that meet the compliance of the requirements of the parameter.				
PP response				**Date:** 19/02/2024
This FAR is applicable to the VVB and should be responded to in the VVB verification report. The SDGs are monitored by the PP through conducting in-person habit surveys and KPTs to determine the impact parameters as per Sections C and D of the MR.				
Documentation provided by the CME				
N/A				
VVB assessment				**Date:** 20/02/2024
For the SDGs the parameters are listed below: **SDG 13:** $B_{p,y,l}$ (KPT), $U_{p,y}$ (Habit survey), $N_{p,y}$ (Desk Review), $LE_{p,y}$ (Habit survey) **SDG 1:** BSA/HHS (Habit survey) **SDG 3:** SPM_{HH} (Habit survey) **SDG 5:** HHTS (Habit survey) **SDG 7:** $AACS_{HH}$ (Habit survey) **SDG 8:** QE IG (Desk review) **SDG 12:** $B_{y,savings}$ (KPT) The SDGs monitored by the habit survey and the KPTs are verified by preparing a questionnaire based on the PPs record of the Habit survey and the regarding the conduction of the KPTs by the PP, households (samples) are selected randomly from the PP's survey records and KPT records and survey is conducted during the on-site visit by the verification team. Based on the acceptance sampling, survey results of the verification team are compared with the PP's result, as no discrepant records are found in the survey conducted by the verification team the PP's habit surveys and KPT results are deemed appropriate. Parameters verified based on the desk review are thoroughly checked from the PP's records and the supporting document provided, verifying the calculations and procedure applied by the PP and comparing the procedures with the validated PDD or VPA-DD. If found in line with the validated PDD or VPA-DDs the results are verified by the verification team. Refer to **Annex 4:** Questions from the PP's habit survey for monitoring the SDGs.				

D.2. Compliance of the project implementation and operation with the registered project design document

Means of verification	Document Review, Interview
Findings	CL 01 & CAR 04 were raised and closed satisfactorily.

Conclusion	Verification team confirms that the latest available version of the monitoring report template has been used and the MR is in compliance with the monitoring report form and related monitoring report template guide. As verified from on-site interviews, the audit team confirm the project implementation and operation complies with the project design document /B04/. The starting date of stove distribution is 23/09/2021 for VPA 2 which is confirmed by the registered PoA-DD/VPA-DDS /B04s/. The project boundary in the registered PoA-DD/VPA-DDS /B04/ is in line with the actual project boundary. CCIPL confirms that the project cookstoves are operational through on-site visits and interviews with end users. Each cookstove has a unique identification number that was provided in the end user agreement and are correct according to the project database. Each cookstove is also physically marked with its unique identification number. Along with the serial number, the stove technology, end username, address, commissioning date etc. had also been noted which were found to be consistent on ground. It is noted that no changes have been observed or identified, that may impact the additionality. No addition of component nor extension of technology, no addition nor removal of project sites, no change of values of the actual operational parameter relevant to determination of emission reductions which are within the control of the PP; no change has been observed or identified that may impact the scale of the project activity or applicability of baseline and monitoring methodology Technologies and Practices to Displace Decentralized Energy Consumption (version 3.1) /B01/. The first ICS distribution was commissioned from 23/09/2021 for VPA 2. A total of 85,866 (VPA 2) cookstoves were distributed since the project start date. 261 new distributions/05/ have been done during the reported monitoring period. Verification team based on review of MR /01/ and provided evidence confirms that the households/end users relinquish their right of carbon credits. Furthermore, the ICS implemented under the project is uniquely identified, thus avoiding any potential double counting. As verified through document review and on-site interviews, the project implementation and operation, all physical features of the project complies with the VPA-DD /B04/. Verification team has checked the information in the monitoring report /01/ and compared it against the registered POA-DD/VPA-DDS /B04/ and found to be consistent. Verification team confirms that: a) The project activity is implemented as per registered POA-DD/VPA-DDS/B04/. b) The actual operation of the proposed project activity is in line with the registered/revised POA-DD/VPA-DDS /B04/. c) It has reviewed the registered POA-DD/VPA-DDS /B04/ including the monitoring plan, the applied monitoring methodology and found that the final MR/01/ for this monitoring period is in line with all the above-mentioned documents. Verification team of CCIPL based on review of records and on-site interviews confirms that a robust and effective grievance addressal

	mechanism is in place and however, no grievances/17/ were reported during the monitoring period. The stakeholder feedback round was conducted from 09/01/2023 to 11/02/2023 by the project proponent. In summary, the monitoring period is reasonable, and the operation of the project activity is in accordance with the registered/revised POA-DD/VPA-DDS /B04/.

D.3. Post-registration changes

D.3.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents[1]

Not applicable

D.3.2. Corrections

PP has revised the value of parameters B_{by} and $EF_{b,I,nonCO2}$ in MR. The value of Bpy reported in the VPA DD was based on country statistics value and as per FAR 3 raised during 1st verification, PP has revised the value to 5.4880 which is based on KPT results. The value of EFb,I,nonCO_2 has been rounded up to the most conservative value in the current MR from 0.56 tCO_2/tfuel to 0.5588 tCO_2/tfuel. VVB confirms that both the revised values provided in the MR is conservative to the value provided in the registered VPA DD.

D.3.3. Changes to the start date of the crediting period

Not applicable

D.3.4. Inclusion of a monitoring plan

Not applicable

D.3.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

Not applicable

D.3.6. Changes to the project design

Not applicable

D.3.7. Changes specific to afforestation and reforestation project activities

Not applicable

D.4. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	Document Review, Interview
Findings	-
Conclusion	The verification team is able to confirm that the monitoring plan contained in the included VPA-DD /B04/ is in accordance with the approved methodology applied by the project activity, i.e. Technologies and

[1] Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

	Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC version 3.1) /B02/. The verification took cognizance of § 341 to § 343 of CDM VVS for PoAs, version 03.0 /B03-2/.

D.5. Compliance of monitoring activities with the registered monitoring plan

D.5.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification: Document Review, Interview

Findings: --

Conclusion: The following parameters have been fixed ex-ante for the VPA considered under this monitoring period:

Parameter	Description of the parameter	Value	Source	Assessment by VT
$B_{b,y}$	Quantity of fuel consumed in baseline scenario b during year y, in tonnes	5.4880 tonnes	Baseline kitchen performance tests (KPTs)	The value is consistent with the included VPA-DD /B05/ and fixed ex-ante for the duration of the crediting period.
$EF_{b,i,CO2}$	CO_2 emission factor arising from use of fuel type i in baseline scenario	Fuelwood: 1.68 tCO_2/t_{fuel}	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5– - Default emission factors for stationary combustion in the residential and agriculture/forestry/ fishing/fishing farms categories	The value is consistent with included VPA -DD /B04S/ and fixed ex -ante for the duration of the crediting period.
$EF_{b,i,nonCO2}$	Non-CO_2 emission factor arising from use of fuel type i in	Fuelwood: 0.5588 tCO_2/t_{fuel}	2006 IPCC Guidelines for National Greenhouse Gas	The value is consistent with included VPA -DD /B05/ and

	baseline scenario		Inventories, Chapter 2: Stationary Combustion, Table 2.9– - Residential Source Emission Factors, The Gold Standard Simplified Methodology for Efficient Cookstoves, February 2013, ER_Calculation_Tool_Cookstove_Meth_V2.00Summary of the Methodology	fixed ex -ante for the duration of the crediting period.
$EF_{p,i,CO2}$	CO_2 emission factor arising from use of fuel type i in project scenario	Fuelwood: 1.68 tCO_2/t_{fuel}	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5– - Default emission factors for stationary combustion in the residential and agriculture/ forestry/ fishing/fishing farms categories	The value is consistent with included VPA -DD /B05/ and fixed ex -ante for the duration of the crediting period.
$EF_{p,i,nonCO2}$	Non-CO_2 emission factor arising from use of fuel type i in project scenario	Fuelwood: 0.5588 tCO_2/t_{fuel}	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2:	The value is consistent with included VPA -DD /B05/ and fixed ex -ante for the

				Stationary Combustion, Table 2.9–- Residential Source Emission Factors, The Gold Standard Simplified Methodology for Efficient Cookstoves, February 2013, ER_Calculation_Tool_Cookstove_Meth_V2.00Summary of the Methodology	duration of the crediting period.	
	$NCV_{b,i}$	Net calorific value of the fuel type i used in the baseline	Fuelwood: 0.015 TJ/tonnes	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 1: Introduction, Table 1.2–- Default net calorific values	The value is consistent with included VPA-DD /B05/ and fixed ex-ante for the duration of the crediting period.	
	$NCV_{p,i}$	Net calorific value of the fuel type i used in the project scenario	Fuelwood: 0.015 TJ/tonnes	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 1: Introduction, Table 1.2–- Default net calorific values	The value is consistent with included VPA-DD /B05/ and fixed ex-ante for the duration of the crediting period.	
	$f_{NRB,b,i,y}$	Fraction of biomass used in year y for baseline scenario b that can be established as non-	Fuelwood: 0.89 Renewable solid biomass fuels (Crop residues /	From C4 EcoSolutions study;	The value is consistent with included VPA-DD /B05/ and fixed ex-ante for the duration of	

	renewable biomass	cow dung): 0.0000 Fossil fuels: 1		the crediting period.

Verification team confirms that the Data and parameters fixed ex-ante are in accordance with the registered PoA-DD and registered/ included VPA-DD /B04/ and the monitoring plan.

The verification took cognizance of §344, §345 and §357 of CDM VVS for PoAs, version 03.0 /B01-1/.

D.5.2. Data and parameters monitored

Means of verification	Document Review, Interview
Findings	--
Conclusion	The verification team confirms that the data and parameters monitored are in compliance with the registered POA-DD/VPA-DDS /B04/ and the monitoring plan. It is confirmed that the verification team assessed the data/information flow from the point of monitoring to emission reduction calculation and found no gap in the same. Please refer to Annex 2 for an assessment of each parameter.

D.5.3. Implementation of sampling plan

Means of verification	Document Review, Interview
Findings	--
Conclusion	According to the standard for sampling and survey /B05/ and related guidelines /B05/ the sampling plan was determined at the time of project registration and applied during the monitoring. Sampling method: Simple random sampling method is adopted as the target population is homogeneous. The sampling frame is homogenous within itself, with respect to service level, established ex-ante baseline and user characteristics. The sample size is determined by the requirement to achieve 90/10 precision, in line with the methodology for annual survey for Habit Surveys and Biennial surveys for KPTs. The sample size calculated for habit surveys is 120 based on a confidence interval/ precision level of 90/10. The precision levels were achieved adequately as 100% of respondents were using the stove. The sample size was done according to the TPDDTEC Version 3.1/B02/, here it states that for a group size > 1000 a minimum sample size of 100 is needed for such a survey. The habit survey was carried out for 120 households to account for the non-responses and is acceptable to the verification team. The sample size calculated for KPT surveys based on a confidence interval/ precision level of 90/10 is 45. Oversampling is conducted and total 54 KPTs were conducted. The KPT calculations are done appropriately. The calculation of exclusion of outliers are provided in the “pKPT” tab of the ER sheet /02/ which is found to be consistent with the baseline KPT (“bKPT” tab of the ER sheet /02/).

	This led to a precision of 9.68% being achieved which falls within the 90/10 precision. The calculated sample was also checked during the previous monitoring period (MP1). The Usage Rate used by the PP for the VPA is 90% based on the Good Practice.

D.6. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Document Review, Interview
Findings	-
Conclusion	Following measurements instruments were used: Instrument | Purchase Date Ryobi MM-210 2 in 1 moisture testers | 22/06/2023 ACCUD 75kg x 10g (0.01kg resolution) | 14/05/2023 The manufacturer specification provided for the products /10/ and the invoices /11/ are reviewed and it confirms that the devices used in the KPT surveys are newly purchased and the purchase date is within one year of the KPT conducted (31/10/2023 – 15/12/2023). Hence, no calibration required for the equipment used in this monitoring period.

D.7. Assessment of data and calculation of emission reductions or net removals

D.7.1. Calculation of baseline value of each SDG Impacts

Means of verification	Document Review, Interview
Findings	--
Conclusion	The Baseline SDG Impacts are calculated as: **SDG 1: No Poverty** $BSA_{Baseline}$ Number of ICS distributed in baseline = 0 $HHS_{Baseline}$ % HH reporting money saving due to reduced fuel consumption in baseline = 0 **SDG 3: Good Health and Well Being** $SPM_{HH,Baseline}$ % HH reporting reduction in smoke/PM emissions while cooking on improved stove in baseline = 0 **SDG 5: Gender Equality** $HHTS_{Baseline}$ % HH reporting time saving from fuel collection due to reduced fuel consumption in baseline = 0 **SDG 7: Affordable and Clean Energy** $ACS_{Baseline}$ Access to affordable and clean energy (Number of operating ICS units under Baseline) = 0 **SDG 8: Decent Work and Economic Growth** $QE\ IG_{Baseline}$ Quantitative Employment and income generation (Number of person (male and female) hired under Baseline) = 0

SDG 12: Responsible Consumption and Production

$B_{b,y,i}$ Fuel consumption for fuel type *i* used in baseline b in year y in tonnes, from baseline KPTs
= 5.488t (KPT value retrieved from Baseline KPT's)

SDG 13: Climate Action

$BE_{b,y}$ Baseline emissions for baseline scenario b in year y (tCO_2e/yr)
= 343,100

$BE_{b,y} = \sum_{b,p} N_{p,y} * U_{p,y} * (ER_{b,p,y,CO2} + ER_{b,p,y,nonCO2})) - \sum LE_{p,y}$

Where:

$\sum_{b,p}$ Sum over all relevant (baseline b) couples
= 85,866 ICS

$N_{p,y}$ Cumulative number of project technology-days included in the sales/distribution database for project scenario p against baseline scenario b in year y
= 85,866 * Total Technology days
= 13,906,366 days

$U_{p,y}$ Cumulative usage rate for technologies in baseline scenario p in year y,
= 82%

$ER_{b,p,y,CO2}$ Specific CO_2 emission savings for an individual technology of Baseline b in year y, in tCO_2/day as derived from the statistical analysis of the data collected from the field tests
= 8.2057 t per annum

$ER_{b,p,y,nonCO2}$ Specific non-CO_2 emission savings for an individual technology of Baseline b in year y, in tCO_2/day as derived from the statistical analysis of the data collected from the field tests
= 2.7293 t per annum

$ER_{b,p,y,CO2} = \sum_i \{ f_{NRB,b,i,y} * B_{b,y,i} * NCV_{b,i} * EF_{b,i,CO2} \}$

Where:

$f_{NRB,b,i,y}$ Fraction of woody biomass used in year y for fuel type *i* that can be established as non-renewable biomass (NRB)
= 0.89

$B_{b,y,i}$ Fuel consumption for fuel type *i* used in baseline b in year y in tonnes, from baseline KPTs
= 5.488t

$NCV_{b,i}$ Net calorific value of the fuel type *i* used in baseline b (TJ/tonnes)
= 0.015

$EF_{b,i,CO2}$ CO_2 emission factor of the fuel type *i* used in the baseline
= (112 tCO_2/TJ*0.015 TJ/t)
= 1.68 tCO_2/tonne of wood

i Fuel Type

$ER_{b,p,y,nonCO2}$ $= \sum_i \{ B_{b,y,i} * NCV_{b,i} * EF_{b,i,nonCO2} \} - \sum_i \{ B_{p,y,i} * NCV_{p,i} * EF_{p,i,nonCO2} \}$

Where:

$EF_{b,i,nonCO2}$ non-CO_2 emission factor of the fuel type *i* used in the baseline
= (34.27 (CH_4) + 2.98 (N_2O) tCO_2/TJ) * 0.015 TJ/t
= 0.5588 tCO_2/tonne of wood

	CCIPL confirms that the calculation of baseline emissions have been carried out in accordance with the formulae and methods described in the registered PDD and the applied methodology.

D.7.2. Calculation of project value of each SDG Impacts

Means of verification	Document Review, Interview
Findings	--
Conclusion	The SDG Impacts in project scenario are calculated as: **SDG 1: No Poverty** Net Benefit (SDG 1) = $BSA_{Project} - BSA_{Baseline}$ = 85,866 Where: $BSA_{Baseline}$ Number of ICS distributed in baseline = 0 $BSA_{Project}$ Number of ICS distributed in Project = 85,866 Net Benefit (SDG 1) = HHSProject – HHSBaseline = 92% Where: $HHS_{Baseline}$ % HH reporting money saving due to reduced fuel consumption in baseline = 0 $HHS_{Project}$ % HH reporting money saving due to reduced fuel consumption in project = 92% Average fuel savings costs were calculated at 166.09 USD per annum, versus the 320.10 USD expected in the baseline calculation. For the respondents who indicated their financial savings in Rands a conversion rate of 15.93 Rand to 1 USD was used. **SDG 3: Good Health and Well Being** Net Benefit (SDG 3) = $SPM_{HH,Project} - SPM_{HH,Baseline}$ = 100% Where: $SPM_{HH,Baseline}$ % HH reporting reduction in smoke/PM emissions while cooking on improved stove in baseline = 0 $SPM_{HH,Project}$ % HH reporting reduction in smoke/PM emissions while cooking on improved stove in project =100% **SDG 5: Gender Equality** Net Benefit (SDG 5) = $HHTS_{Project} - HHTS_{Baseline}$ = 97% Where: $HHTS_{Baseline}$ % HH reporting time saving from fuel collection due to reduced fuel consumption in baseline = 0 $HHTS_{Project}$ % HH reporting time saving from fuel collection due to reduced fuel consumption in project = 97% **SDG 7: Affordable and Clean Energy** Net Benefit (SDG 7) = $ACS_{Project} - ACS_{Baseline}$ = 85,866 Where: $ACS_{Baseline}$ Access to affordable and clean energy (Number of operating

	ICS units under Baseline) = 0
$ACS_{Project}$	Access to affordable and clean energy (Number of operating ICS units under Project) = 85,866

SDG 8: Decent Work and Economic Growth

Net Benefit (SDG 8) = $QE\ IG_{Project}$ - $QE\ IG_{Baseline}$
= 30

Where:

$QE\ IG_{Baseline}$	Quantitative Employment and income generation (Number of persons hired under Baseline) = 0
$QE\ IG_{Project}$	Quantitative Employment and income generation (Number of persons hired under Project) = 30

SDG 12: Responsible Consumption and Production

$B_{y,savings} = B_{b,y,i} – B_{p,y,i}$

Where:

$B_{y,savings}$	Reduction in domestic fuel consumption (tonnes/year) = 4.6247 t
$B_{b,y,i}$	Fuel consumption for fuel type *i* used in baseline b in year y in tonnes, from baseline KPTs = 5.488 t
$B_{p,y,i}$	Fuel consumption for fuel type *i* used in project p in year y in tonnes, as derived from the statistical analysis of the data collected from the field tests = 0.8633 t

SDG 13: Climate Action

For a complete overview of the ex-ante and ex-post CO_2 equivalent emissions reductions calculations, please refer to the VPA Emissions Reductions Calculation Sheet. GHG reductions achieved by the VPA are calculated as follows:

$ER_y = \sum BE_{b,y} – \sum PE_{p,y} – \sum LE_{p,y}$

Where:

ER_y	Emission reduction for total project activity in year y (tCO_2e/yr) = 289,128 (Round down)
$BE_{b,y}$	Baseline emissions for baseline scenario b in year y (tCO_2e/yr) = 343,100
$PE_{p,y}$	Project emissions for project scenario p in year y (tCO_2e/yr) = 53,972
$LE_{p,y}$	Leakage for project scenario p in year y (tCO_2e/yr) = 0

As per the methodology the governing equation for the emission reduction calculations is as follows with ($\sum BE_{b,y} – \sum PE_{p,y}$) is directly merged in to the following equation:

$ER_y = \sum_{b,p} N_{p,y} * U_{p,y} * (ER_{b,p,y,CO2} + ER_{b,p,y,nonCO2})) – \sum LE_{p,y}$

Where:

$\sum_{b,p}$	Sum over all relevant (baseline b/project p) couples

= 85,866 ICS

$N_{p,y}$ Cumulative number of project technology-days included in the sales/distribution database for project scenario p against baseline scenario b in year y
= 85,866* Total Technology days
= 13,906,366 days

$U_{p,y}$ Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)
= 82%

$ER_{b,p,y,CO2}$ Specific CO_2 emission savings for an individual technology of Project against an individual technology of Baseline b in year y, in tCO_2/day as derived from the statistical analysis of the data collected from the field tests
= 6.9149t per annum (see below)
= 0.0189 tCO_2e/day

$ER_{b,p,y,nonCO2}$ Specific non-CO_2 emission savings for an individual technology of Project against an individual technology of Baseline b in year y, in tCO_2/day as derived from the statistical analysis of the data collected from the field tests
= 2.3000t per annum (see below)
= 0.0063 tCO_2e/day

$LE_{p,y}$ Leakage for project scenario p in year y (See Section E.3)
= 0%
= 0 tCO_2e/yr

$ER_{b,p,y,CO2} = \sum_i \{f_{NRB,b,i,y} * B_{b,y,i} * NCV_{b,i} * EF_{b,i,CO2}\} - \sum_i \{ f_{NRB,b,i,y} * B_{p,y,i} * NCV_{p,i} * EF_{p,i,CO2}\}$

Where:

$f_{NRB,b,i,y}$ Fraction of woody biomass used in year y for fuel type *i* that can be established as non-renewable biomass (NRB)
= 0.89

$B_{b,y,i}$ Fuel consumption for fuel type *i* used in baseline b in year y in tonnes, from baseline KPTs
= 5.4880t

$B_{p,y,i}$ Fuel consumption for fuel type *i* used in project p in year y in tonnes, as derived from the statistical analysis of the data collected from the field tests
= 0.8633t

$NCV_{b,i}$ (TJ/tonnes) Net calorific value of the fuel type *i* used in baseline b
= 0.015

$NCV_{p,i}$ (TJ/tonnes) Net calorific value of the fuel type *i* used in project p
= 0.015

$EF_{b,i,CO2}$ CO_2 emission factor of the fuel type *i* used in the baseline
= (112 tCO_2/TJ * 0.015 TJ/t)
= 1.68 tCO_2/tonne of wood

$EF_{p,i,CO2}$ CO_2 emission factor of the fuel type *i* used in the project
= (112 tCO_2/TJ * 0.015 TJ/t)
= 1.68 tCO_2/tonne of wood

i Fuel Type

$ER_{b,p,y,nonCO2} = \sum_i \{ B_{b,y,i} * NCV_{b,i} * EF_{b,i,nonCO2}\} - \sum_i \{ B_{p,y,i} * NCV_{p,i} * EF_{p,i,nonCO2}\}$

	Where: $EF_{b,i,nonCO2}$ non-CO_2 emission factor of the fuel type *i* used in the baseline = (34.27 (CH_4) + 2.98 (N_2O) tCO_2/TJ) * 0.015 TJ/t = 0.5588 tCO_2/tonne of wood $EF_{p,i,nonCO2}$ non-CO_2 emission factor of the fuel type *i* used in the project = (34.27 (CH_4) + 2.98 (N_2O) tCO_2/TJ) * 0.015 TJ/t = 0.5588 tCO_2/tonne of wood LEy Leakage for project scenario p in year y = 0% CCIPL confirms that the calculation of project emissions have been carried out in accordance with the formulae and methods described in the registered PDD and the applied methodology.

D.7.3. Calculation of leakage GHG emissions

Means of verification	Document Review, Interview
Findings	--
Conclusion	A justification has been provided for each condition as per the methodology TPDDTEC, version 3.1/B02/. There are no leakages applicable for the reported monitoring period.

D.7.4. Summary calculation of SDG Impacts

Means of verification	Document Review, Interview
Findings	CL 02 and CAR 04 were raised and closed satisfactorily
Conclusion	

SDG No.	SDG Impact	Baseline	Project	Net benefit
13	Tonnes CO^2 equivalent emissions	343,100	53,972	289,128
1	Number of ICS distributed	0	85,866	85,866
1	Financial savings (USD/month) /16/	0	13.84	13.84
3	% HH reported reduction in smoke/PM Emissions while cooking on ICS	0	100%	100%
5	% HH reporting time saving from fuel collection due to reduced consumption	0	97%	97%
7	Access to affordable and clean energy (number of ICS distributed)	0	85,866	85,866
8	Quantitative employment and income generation (Number of persons hired)	0	30	30
12	Wood fuel savings while cooking on project ICS in tonnes per annum	0	4.6247	4.6247

The data presented in the monitoring report /01/ and emission reduction worksheet /02/ were assessed by reviewing in detail project documentation, collection of monitored data, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. Sufficient evidence was presented and verified by the CCIPL for the reported emission reductions as listed above.

D.7.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered POA-DD/VPA-DDS

Means of verification	Document Review, Interview
Findings	CAR 04 was raised and closed satisfactorily
Conclusion	The ex-ante estimate value of the emission reductions for the monitoring period as per the registered POA-DD/VPA-DDS /B04/ is 313,307and actual emission reductions achieved for the monitoring period is 289,128 tCO_{2e}

SDG	Values estimated in ex ante calculation of approved POA-DD/VPA-DDS	Actual values achieved during this monitoring period
13	313,307 tCO_2e	289,128 (tCO_2e)
1	25,000 ICS distributed 340.10 USD per annum	85,866 ICS distributed 166.09 USD per annum
3	100%	100%
5	100%	97%
7	25,000 ICS distributed	85,866 ICS distributed
8	25 (Number of persons hired)	30 (Number of persons hired)/13/
12	4.17 (tonnes/year)	4.6247 (tonnes/year)

The emission reduction calculations provided in the spreadsheet /02/ have been verified to be correct and in line with the registered POA-DD/VPA-DDS /B04/.

D.7.6. Remarks on difference from estimated value in registered POA-DD/VPA-DDS

Means of verification	Document Review, Interview
Findings	--
Conclusion	The ex-ante estimate value of the emission reductions for the monitoring period as per the registered POA-DD/VPA-DDS /B05-2/ is 313,307 tCO_2e/yr and the actual emission reductions achieved for the monitoring period is 289,128 tCO_2e/yr. For SDG 13, the actual emission reduction is higher than the estimated value by 0.85%, which is under the sensitivity limit and hence it is acceptable to the verification team. The monitoring report /01/ provides the reason for the increase in the actual emission reduction and the same was confirmed by the verification team by interviewing the representatives of PP and by reviewing the actual implementation status of the project. For other SDG parameters, PP has provided justification in the Monitoring report and an assessment of the same is provided below: • SDG 1: The actual value exceeds the estimated value, which is due

	to the increased number of project ICS than estimated. • SDG 3: The actual value is equal to the estimated value, which is deemed appropriate and thus acceptable to the VVB. • SDG 5: The actual value is less than the estimated value, which is deemed appropriate and thus acceptable to the VVB. • SDG 7: The actual value exceeds the estimated value, which is due to the increased number of project ICS than estimated. • SDG 8: The actual value exceeds the estimated value, of which the evidence is also provided with the supporting document, is deemed appropriate and thus acceptable to the VVB/13/. • SDG 12: The actual value exceeds the estimated value. The estimated value were based on the default thermal efficiency while the actual value were based on the actual KPT conducted. • SDG 13: The actual value is less than the estimated value, whichis deemed appropriate and thus acceptable to the VVB.

D.8. Assessment of Safeguard Reporting

Means of verification	Document Review, Interview
Findings	--
Conclusion	

Risk identified in PDD	**Actions to Mitigate**	**Mitigated? (yes/no)**	**VVB Assessment**
Principle 6.1 Labour Rights: The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions	Legal employment contracts for project staff in Zimbabwe are provided to the VVB as evidence. Stove manufacturers will be required to show suitable, up to date OHS policy.	Yes	As per the employment contracts /13/ reviewed, the contract with the individuals is in as per the OHS policy of the country./14/
Principle 6.1 Labour Rights: Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND c) Remuneration (must include	Legal employment contracts for project staff in Zimbabwe are provided to the VVB as evidence.	Yes	As per the assessment of the employment contract /13/ provided by the PP all the information regarding the working agreements with all individuals are provided.

	provision for payment of overtime), AND d) Modalities on health insurance, AND e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave.			

SECTION E. Internal quality control

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The verification report has passed a technical review before being submitted to the Gold Standard. The technical review is performed by a technical reviewer qualified in accordance with CCIPL's qualification scheme for validation and verification.

SECTION F. Verification/Certification opinion

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Carbon Check (India) Private Ltd. (CCIPL) has performed the 3rd periodic verification of the registered GS Project Activity "TASC Clean Cooking PoA- VPA 2 (Zimbabwe)".

The verification team assigned by the VVB concludes that the project activity as described in the POA-DD/VPA-DDS /B05/ and the Monitoring report /01/, meets all relevant requirements of the Gold Standard. The verification has been conducted in line with the GS4GG requirements project activities.

Verification methodology and process

The Verification team confirms the contractual relationship signed between the VVB, Carbon Check (India) Private Ltd. and the Project Participant /03/. The team assigned to the verification meets the CCIPL's internal procedures including the UNFCCC/GS requirements for the team composition and competence. The verification team has conducted a thorough contract review as per UNFCCC and CCIPL's procedures and requirements.

The verification has been performed as per the requirements described in the GS4GG and constitutes the review and completion of the following steps:

- Reviewing the PoA-DD/VPA-DDS /B04/, including the monitoring plan and the corresponding validation report /B04/;
- Desk review of the MR /01/ and other relevant documents including documents related to the project activities in emission reductions;
- Review of the applied monitoring methodology Technologies and Practices to Displace Decentralized Energy Consumption (version 3.1) /B02/;
- On-site inspection (07/03/2024 to 09/03/2024/)

- Resolution of CARs and CLs raised during verification
- Issuance of Verification Report

The project activity was correctly implemented according to the selected monitoring methodology, monitoring plan and the registered POA-DD/VPA-DDS. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the document review and interviews, the verification team confirms that the project activity has resulted the 289,128 (tCO_2e) emission reductions during the reported monitoring period.

Vintage (VPA 2)	**ER (tCO_2e)**
23/07/2023 – 31/12/2023	**289,128 tCO_2e**

This statement covers the verification period from 23/07/2023 to 31/12/2023 (inclusive).

The VVB has raised 03 clarifications and 04 corrective action requests, all of which are satisfactorily closed.

The VVB considers it necessary to give reasonable assurance that reported GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology and that the monitoring plan contained in the registered PoA-DD/VPA-DDS are fairly stated.

The VVB, hereby certifies that the project activity achieved emission reductions by sources of GHG equal to 289,128 tCO_2e VPA 2 equivalent and all monitoring requirements have been fulfilled and is substantiated by an audit trail that contains evidence and records.

Appendix 1. Abbreviations

Abbreviations	Full texts
AQL	Unacceptable Quality Level
BE	Baseline Emissions
CA	Corrective Action/ Clarification Action
CER	Certified Emission Reduction
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mission
CER	Certified Emissions Reductions
CL	Clarification Request
CME	Coordinating And Managing Entitty
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
DVR	Draft Verification Report
EB	CDM Executive Board
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final Validation Report
GHG	Greenhouse gas(es)
GS	Gold Standard
HH	HouseHolds
ICS	Improved cookstoves
IPCC	Intergovernmental Panel on Climate Change
KPT	Kitchen Performance Test
LE	Leakage Emissions
MP	Monitoring Period
MR	Monitoring Report
PE	Project Emissions
PP(s)	Project Participant(s)
PRC	Post registration change
SDG	Sustainable Development Goals
TASC	The African Stove Company
TPDDTEC	Technologies and Practices to Displace Decentralized Thermal Energy Consumption
QC/QA	Quality Control/ Quality Assurance
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Level
VPA	Verified Project Activity
VVS	Validation and Verification Standard
VVB	Validation & verification body

Appendix 2. Competence of team members and technical reviewers

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Ms. Jaya Rajput

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☐ CCB Expert	☐ Legal Expert	☐ Financial Expert	☐ Environmental, Health and Safety financial matters
☐ SDG+	☐ Social no-harm(S+)	☐ Environment no-harm(E+)	
☒ Local Expert for India			

in the following Technical Areas:

☐ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date
5th December 2023

Expiry Date
31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022	Initial Adoption
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Carbon Check (India) Private Limited

Certificate of Competency

Ms. Aparna Choudhary

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☐ CCB Expert	☐ Legal Expert	☐ Financial Expert	☐ Environmental, Health and Safety financial matters
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	
☒ Local Expert for India			

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☐ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022[1]	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Carbon Check (India) Private Limited

Certificate of Competency

Mandishona Liberty

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☐ Validator	☐ Verifier	☐ Team Leader	☐ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☐ CCB Expert	☐ Legal Expert	☐ Financial Expert	☐ Environmental, Health and Safety financial matters
☐ SDG+	☐ Social no-harm(S+)	☐ Environment no-harm(E+)	
☒ Local Expert for Zimbabwe			

in the following Technical Areas:

☐ TA 1.1	☐ TA 1.2	☐ TA 2.1	☐ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date

03rd May 2024

Expiry Date

04th May 2025

Ms. Priya Suman
Compliance Officer

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
May 2023	**Initial Adoption**
May 2024	Template change

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Carbon Check (India) Private Limited

Certificate of Competency

Mr. S Ranganathan

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☐ CCB Expert	☐ Legal Expert	☐ Financial Expert	☐ Environmental, Health and Safety financial matters
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	
☒ Local Expert for India			

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☒ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☐ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022	Initial Adoption
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Appendix 3. Documents reviewed or referenced

S. No.	Document
/01/	1. Monitoring Report (Version 1.0 dated 25/01/2024) 2. Monitoring Report (Version 1.1 dated 26/02/2024) 3. Monitoring Report (Version 1.2 dated 27/03/2024 4. Monitoring Report (Version 1.3 dated 06/05/2024) 5. Monitoring Report (Version 1.4 dated 21/05/2024)
/02/	Emission reductions sheet (Corresponding to /01-5)
/03/	Countersigned Contract between CCIPL and TASC, dated 17/01/2024
/04/	Lab report from the Kenya Industrial Research and Development (KIRDI) for the thermal efficiency testing of cookstoves dated 19/11/2017
/05/	VPA distribution records 23/09/2021 to 11/08/2023
/06/	Contract between TASC and MyTrees dated 14/02/2023
/07/	Sample survey selection sheet
/08/	KPT survey records conducted by My Trees Trust from 31/10/2023 to 15/12/2023
/09/	Training Manual and training records on conduction of the KPTs and the Habit surveys
/10/	Manufacturer specifications of : 1- Kuniokoa Model wood fuel cookstove product leaflet / stove manual 2- Moisture Meter 3- Weighing Scale
/11/	Moisture meter invoice and scale invoices 1. 12173_Cicada_Moisture_Meters_20230621 2. Stove scales receipt
/12/	Exclusiveness of VPA declaration
/13/	Employment Records
/14/	BURN EHS Policy - 24.03.2022
/15/	Proof of Carbon Wavier certification dated 12/05/2022
/16/	Usage Monitoring Survey (Habit Surveys) conducted by My Trees Trust from 24/10/2023 to 15/12/2023
/17/	Grievance records
/18/	Verification call evidence
/19/	fNRB report dated: 25/03/2022 by C4 EcoSolutions

Background Documents

Ref no.	Reference Document
/B01/	1. Validation and Verification Standard for PoAs, version 03.0 2. Project Standard for PoAs, version 03.0 3. Project Cycle Procedure for PoAs, version 03.0
/B02/	Technologies and Practices to Displace Decentralized Energy Consumption (version 3.1)
/B03/	1. Gold Standard Principles and Requirements version 1.2, dated 24/10/2019 2. Gold Standard Programme of Activity Requirements version 1.2, dated 24/10/2019 3. GS Validation & Verification Body Requirements version 2.0, dated 14/01/2021 4. GS Validation and Verification Standard version 1.0, dated 06/03/2023 5. Community Services Activity Requirements (version 1.1) under GS4GG https://globalgoals.goldstandard.org/200-gs4gg-community-services-activity-requirements/
/B04/	Registered VPA-DD, Version 1.7 dated 13/12/2022 and Corresponding validation report Registered PoA-DD, Version 05, dated 03/02/2022 and Corresponding Validation Report
/B05/	Sampling and Survey a) CDM Sampling Standard, version 09.0 b) Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0.
/B06/	Site Visit and Remote Audit Requirements and Procedures, version 1.0 dated 17/11/2021
/B07/	REQUIREMENTS AND GUIDELINES: USAGE RATE MONITORING, v2.0, dated: 27/10/2020

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. Remaining FARs from validation and/or previous verification

No FAR was raised in previous verification as confirmed with 2nd monitoring periods MR and verification report

FAR ID	xx	**Section no.**		**Date:** DD/MM/YYYY
Description of FAR				
CME response				**Date:** DD/MM/YYYY
Documentation provided by the CME				
VVB assessment				**Date:** DD/MM/YYYY

Table 2. CLs from this verification

CL ID	01	**Section no.**	B.1	**Date:**11/04/2024
Description of CL				
In section B.1, PP mentions the number of total operational stoves, although it does not clarify on number of stoves distributed during 3rd monitoring period explicitly.				
CME response				**Date:** 11/04/2024
The number of stoves distributed during the 3rd monitoring period has been explicitly stated to be 261 devices in both sections A.1 and B.1 of TASC_Zim_VPA_2_MP3_v1.3.				
Documentation provided by the CME				
MR v1.1				
VVB assessment				**Date:** 11/04/2024
PP has given the number of stoves distributed in 3rd monitoring period in section A.1 and B.1 of the revised MR. Thus, CL 01 is closed.				

CL ID	02	**Section no.**	Table 01	**Date:**08/02/2024
Description of CL				
In Table 01, SDG 01, "Financial savings" Unit does not clarify that value is for the whole monitoring period or per annum.				
CME response				**Date:** 03/04/2024
SDG 01, in Table 01, has been amended to show the financial savings unit and has been clarified to indicate that the financial savings value is for the entire monitoring period.				
Documentation provided by the CME				
MR v1.1				
VVB assessment				**Date:** 19/03/2024
PP has clarified the unit of financial savings in Table 1 of the revised MR. CL02 IS CLOSED.				

CL ID	03	**Section no.**	B.1.1	**Date:20**/03/2024
Description of CL				
PP is requested to clarify that if any FAR was raised during the second MP.				
CME response				**Date:** 03/04/2024

The FAR raised during the performance review of the first monitoring period has been added and clarified in Section B.1 of the MR. Please note that the 2nd performance review with SustainCert is currently underway and no FARs have been raised as of yet. *"During the 1st Performance review, the following FAR was raised* *FAR1: All future verifications, VVB shall describe clearly how they have assessed and the applied method of verification and type of interview questions for monitored SDGs to reach the conclusion that meet the compliance of the requirements of the parameter.* *This FAR is applicable to the VVB and should be responded to in the VVB verification report. The SDGs are monitored by the PP through conducting in-person habit surveys and KPTs to determine the impact parameters as per Sections C and D of the MR."*
Documentation provided by the CME

VVB assessment	**Date: 09/04/2024**
PP has added the FAR raised during the previous monitoring periods in section B.1.1 of the MR v1.2. CL03 is closed.	

Table 3. CARs from this verification

CAR ID	01	**Section no.**	Cover page	**Date:** 10/04/2024
Description of CAR				
In the Cover page of MR v1.0 dated 25/01/2024, the "Duration of this monitoring period" is mentioned as 16/08/2022 – 31/12/2023 (inclusive), *which is not consistent with other sections of MR.*				
CME response				**Date:** 10/04/2024
The "Duration of this monitoring period on the cover page of MR v1.0 dated 15/02/2024 has been changed to 23/07/2023 – 31/12/2023 and made consisted with the other section of the MR.				
Documentation provided by the CME				
MR v1.1				
VVB assessment				**Date:** 11/04/2024
The PP has revised the monitoring period in the cover page of MR v1.1. Although Table 2 of the MR states the MP as 16/08/2022 – 31/12/2023. *CAR 01 is not closed.*				
CME response				**Date:**
The monitoring period in Table 2 of TASC_Zim_VPA_2_MP3_v1.3 has been change to 23/07/2023 – 31/12/2023				
Documentation provided by the CME				
VVB assessment				**Date:16/04/2024**
PP has revised table 2 with correct dates. CAR 01 is closed.				

CAR ID	02	**Section no.**	A.1, B.1, C, D.3, E.4, E.5	**Date:** 08/02/2024
Description of CAR				
PP is requested to address the following comments as per the MR template guideline – 1. *As per §13 of the MR template guideline, "Complete this form using the same format without modifying its font, headings or logo, and without any other alteration to the form." In sections E.4 and E.5, the font in the table does not follow the same font.* 2. *In section D.3 and E.4, CO_2 is not in subscript.* 3. *As per §18 of the MR template guideline, "All Dates must be in the following format: DD/MM/YYYY". In section A.1, B.1, and C, some dates are not in the DD/MM/YYYY format.*				
CME response				**Date:** 03/04/2024

The inconsistencies have been noted and corrected as requested *1. The fonts have been made consisted with the template guidelines* *2. CO_2 has been corrected to a subscript in Section D.3 and E.5* *3. The dates in section A.1, B.1, and C have been changed to DD/MM/YYYY format as per MR template guidelines*
Documentation provided by the CME
MR v1.1
VVB assessment **Date:** 10/04/2024
1. PP has revised the font as per the template guidelines. 2. PP has revised CO_2 in subscript. 3. PP has revised the date format as per the template guidelines. 4. *As per§E.6 of the MR template guideline, "State whether the actual SDG Impacts achieved is greater than the amount based on the ex-ante estimation in the Design Certified PDD. If so, explain the cause of any increase in the actual Impacts achieved by the project activity during this monitoring period, including all information that is different from that stated in the Design Certified PDD". However, in section E.6 of the MR, PP has not justified the increase in SDG 13.*
CME response **Date:** 10/04/2024
The following justification for the increase in SDG 13 has been added in Section E.6 of the MR. *"SDG 13: Ex-ante wood savings were estimated/calculated based on baseline fuel use values and the improved thermal efficiency of the project stove, the ex-post values were determined through KPT's by subtracting the actual project KPT value from the baseline KPT value and not estimated. Therefore, this explains the increase in the total fuel savings reported during ex-post monitoring reporting from the value reported in the approved VPA DD which increased the SDG 13 impact."*
Documentation provided by the CME
VVB assessment **Date:** 11/04/2024
The justification provided in the MR v1.2 is satisfactory and has been cross-verified with the KPT results. Although the font is not as per the GS MR template. CAR 02 is not closed.
CME response **Date:11/04/2024**
The font of the above text in TASC_Zim_VPA_2_MP3_v1.3 has been changed to the font as per GS MR template.
Documentation provided by the CME
VVB assessment **Date:** 16/04/2024
PP has revised the font in line with the template guidelines. CAR 02 is closed.

CAR ID	03	**Section no.**		**Date:** 08/02/2024
Description of CAR				
PP is requested to provide following supporting documents – *1. Habit Survey* *2. KPT Survey* *3. Employment records* *4. Contract between TASC and MyTrees* *5. Manufacturer's specification of cookstoves* *6. Thermal Efficiency Certificate of cookstove* *7. Sampling and precision sheet* *8. Screenshots of ODK collection application* *9. fNRB report* *10. Moisture test manufacturer specification and purchase receipt* *11. Training certificates of on ground team* *12. Calculation sheet of SDG 1 (USD)*				
CME response				**Date:** 03/04/2024
The requested supporting documents are provided and attached with the CCIPL 2097 findings				
Documentation provided by the CME				

VVB assessment	Date: 19/03/2024

1- Habit survey is provided.
2- KPT survey is provided.
3- Employment records are provided.
4- Contract between TASC and MyTrees is not provided.
5- Manufacturer's specification of cookstoves is not provided.
6- Thermal Efficiency Certificate of cookstove is provided.
7- Sampling and precision sheet is given in ER sheet.
8- Screenshots of ODK collection application is not provided.
9- fNRB report is provided.
10- Moisture test manufacturer specification and purchase receipt is not provided.
11- Training certificates of on ground team is not provided.
12- Calculation sheet of SDG 1 (USD) is not provided.
13- Project Database
14- *On going grievance mechanism records*

CAR 03 is not closed.

CME response	Date: 03/04/2024

4- SLA between TASC and Cicada Carbon is provided. There is no contract between TASC and My Trees Trust
5- BURN kuniokoa lab report provided.
8- Screenshots of ODK Collection application
11- Moisture meter order for 21 June 2023 provided along with spec sheet
12- There are no training certificates for the ground team. There was a refresher training call on 2023/10/23 before the start of the monitoring. The recording of this session is submitted along with this document.
13- Provided in cells K and N 19 of the "Wood Collection & Money Saved" tab in VPA2_Habit_Surveys_MRV3_v1.0 excel sheet.
13- Project database is submitted along with this document.
14- No grievances were recorded during this monitoring period.

Documentation provided by the CME

VVB assessment	Date: 11/04/2024

14- PP is requested to provide grievance register to confirm no grievances were reported during this MP. CAR 03 remains open.

CME response	Date: 16/04/2024

14- Screenshots of the Grievance Logging Books have been presented, however the field project team has not reported any grievances as there were none.

Documentation provided by the CME

VVB assessment	Date: 16/04/2024

PP has submitted Grievance logbook. CAR 03 is closed.

CAR ID	04	Section no.	ER sheet	Date: 19/03/2024

Description of CAR

PP is requested to address the following findings in the ER sheet –

1. *The net ER values in sheet "Ex post" is given as 268,422 while in MR it is given as 289,128.*
2. *In sheet "Tech days", the monitoring period is given as 16/08/2023 to 31/12/2023, while in MR it is 23/07.2023 to 31/12/2023.*
3. *In line with the above finding, tech days are not correct.*

CME response	Date: 03/04/2024

1. *The net ER value calculated as 289,128 in cell E23 in sheet "Ex post" in VPA2_Zimbabwe_MRV3_ER calc sheet_v1.1 matches that which is reported in the MR (289,128).* 2. *The monitoring period in cell E9 and E10 in sheet "Tech days" in VPA2_Zimbabwe_MRV3_ER calc sheet_v1.1is given as 16/08/2023 to 31/12/2023 matches that which is reported in the MR (16/08/2023 to 31/12/2023).* 3. *Given the above clarification, the tech days in cell Q20 in sheet "Tech days" in VPA2_Zimbabwe_MRV3_ER calc sheet_v1.1 are in line with the monitoring period and are therefore correct.*
Documentation provided by the CME
VVB assessment **Date:** 09/04/2024
1- PP has revised the value in cell E23 in line with the MR. 2- PP has revised dates in line with the MR. 3- PP has revised the dates. CAR04 has been closed.

Table 4. FARs from this verification

FAR ID	xx	**Section No.**		**Date:** DD/MM/YYYY
Description of FAR				
NIL				
CME response				**Date:** DD/MM/YYYY
Documentation provided by the CME				
VVB assessment				**Date:** DD/MM/YYYY

Annex 1: Assessment of data and parameters fixed ex-ante at the time of validation

Relevant SDG Indicator	SDG 13, Climate action
Parameter	$B_{b,\,y}$
Data unit	Tonnes per household per annum
Default values used	5.4880 tonnes
Purpose of data	Calculation of the baseline scenario
Source of verification of the source	Third Party Reports

Relevant SDG Indicator	SDG 13, Climate action
Parameter	$EF_{b,i,CO2}$
Data unit	$tCO2/t_{fuel}$
Default values used	Fuelwood/ wood chips: 1.68 tCO_2/t_{fuel}
Purpose of data	Calculation of baseline scenario
Source of verification of the source	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5 – Default emission factors for stationary combustion in the residential and agriculture/ forestry/ fishing/ fishing farms categories

Relevant SDG Indicator	SDG 13, Climate action
Parameter	$EF_{b,i,nonCO2}$
Data unit	$tCO2/t_{fuel}$
Default values used	Fuelwood/ wood chips: 0.5588 $tCO2/t_{fuel}$
Purpose of data	Calculation of baseline scenario
Source of verification of the source	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.9 – Residential Source Emission Factors The value has changed from the ex-ante estimates as the revised values for the GWPs have been used for N_2O and CH_4.

Relevant SDG Indicator	SDG 13, Climate action
Parameter	$EF_{p,i,CO2}$
Data unit	$tCO2/t_{fuel}$
Default values used	Fuelwood/ wood chips: 1.68 tCO_2/t_{fuel}
Purpose of data	Calculation of Baseline scenario
Source of verification of the source	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5 – Default emission factors for stationary combustion in the residential and agriculture/ forestry/ fishing/ fishing farms categories

Relevant SDG Indicator	SDG 13, Climate action

Parameter	$EF_{p,i,nonCO2}$
Data unit	$tCO2/t_{fuel}$
Default values used	Fuelwood/ wood chips: 0.5588 tCO_2/t_{fuel}
Purpose of data	Calculation of the baseline scenario
Source of verification of the source	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.9 – Residential Source Emission Factors The value has changed from the ex-ante estimates as the revised values for the GWPs have been used for N_2O and CH_4.

Relevant SDG Indicator	SDG 13, Climate Action
Parameter	$NCV_{b,i}$
Data unit	TJ/tonne
Default values used	Fuelwood/ wood chips: 0.015 TJ/ tonnes
Purpose of data	Calculation of the baseline scenario
Source of verification of the source	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 1: Introduction, Table 1.2- Default net calorific values

Relevant SDG Indicator	SDG 13, Climate Action
Parameter	$NCV_{p,i}$
Data unit	TJ/tonne
Default values used	Fuelwood/ wood chips: 0.015 TJ/ tonnes
Purpose of data	Calculation of the baseline scenario
Source of verification of the source	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 1: Introduction, Table 1.2- Default net calorific values

Relevant SDG Indicator	SDG 13
Parameter	$f_{NRB,b,i,y}$
Data unit	Fraction of non- renewable biomass used in the baseline
Default values used	Fuelwood: 0.89 Renewable solid biomass fuels (Crop residues/ cow dung): 0.0000 Fossil fuels: 1
Purpose of data	Calculation of the baseline scenario
Source of verification of the source	C4 EcoSolutions study

Annex 2: Assessment of data and parameters monitored

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 "Amount of CO2e emissions reduced by the project per year"
Data / Parameter: **(as in monitoring plan of POA-DD/VPA-DDS):**	$B_{p,y,i}$
Unit	Tonnes per household per annum
Measuring frequency/Time Interval:	Updated every two years
Reported value	0.8633 tonnes
Verified Source of Data	Field Performance Tests (FPTs)
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	The moisture meters (Ryobi MM-210 2 in 1 moisture testers (5-50%/±2%)) and scales (ACCUD 75kg x 10g (0.01kg resolution)) are used in the KPT surveys of which the invoices are provided by the PP named "7529" /11/, dated 29/08/2022, "12173_Cicada_Moisture_Meters_20230621" /11/, dated 21/06/2023, "Stove scales receipt" /11/ and "Stove scales receipt 1" /11/ both dated 14/05/2023. The manufacturer specification provided for the products /10s/ and the invoices /11/ are reviewed and it confirms that the devices used in the KPT surveys /08/ are newly purchased.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 "Amount of CO_2e emissions reduced by the project per year"
Data / Parameter: **(as in monitoring plan of POA-DD/VPA-DDS):**	$U_{p,y}$
Unit	Fraction (or %)
Measuring frequency/Time Interval:	Annual

Reported value	90%
Verified Source of Data	Annual usage survey (24/10/2023 – 15/12/2023)
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO_2e emissions reduced by the project per year”
Data / Parameter: (as in monitoring plan of POA-DD/VPA-DDS):	$N_{p,y}$
Unit	Number
Measuring frequency/Time Interval:	Continuous
Reported value	85,866 (Number of ICS distributed)
Verified Source of Data	Monitoring Database
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity	NA

parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: **(as in monitoring plan of POA-DD/VPA-DDS):**	$LE_{p,y}$
Unit	Tonnes of CO_2 equivalent per year
Measuring frequency/Time Interval:	Aggregate leakage can be assessed for multiple project scenarios, if appropriate, every two years
Reported value	0
Verified Source of Data	Leakage assessment
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 1 Indicator 1.4.1 “Proportion of population living in households with access to basic services”
Data / Parameter: **(as in monitoring plan of POA-DD/VPA-DDS):**	BSA/ HHS
Unit	Number
Measuring frequency/Time Interval:	Annually

Reported value	85,866 ICS in use
Verified Source of Data	1. Monitoring Database ICS distribution records 2. Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 3 Indicator 3.9.1 “Mortality rate attributed to household and ambient air pollution”
Data / Parameter: (as in monitoring plan of POA-DD/VPA-DDS):	SPM_{HH}
Unit	%
Measuring frequency/Time Interval:	Annually
Reported value	100%
Verified Source of Data	Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity	NA

parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 5 Indicator 5.4.1 "Proportion of time spent on unpaid domestic and care work, by sex, age and location"
Data / Parameter: **(as in monitoring plan of POA-DD/VPA-DDS):**	HHTS
Unit	%
Measuring frequency/Time Interval:	Annual
Reported value	97%
Verified Source of Data	Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 7 Indicator 7.1.2 "Proportion of population with primary reliance on clean fuels and technology"
Data / Parameter: **(as in monitoring plan of POA-DD/VPA-DDS):**	$AACS_{HH}$
Unit	Number
Measuring frequency/Time Interval:	Continuous
Reported value	85,866 ICS distributed

Verified Source of Data	ICS Monitoring Database
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 8 Indicator 8.5.1 “Average hourly earnings of female and male employees, by occupation, age and persons with disabilities”
Data / Parameter: (as in monitoring plan of POA-DD/VPA-DDS):	QE IG
Unit	Number
Measuring frequency/Time Interval:	Annually
Reported value	30 (16 male/14 female) employed across VPA 2
Verified Source of Data	Employment Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in	NA

accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 12 Indicator 12.2.2 “Domestic material consumption, domestic material consumption per capita and domestic material consumption per GDP”
Data / Parameter: **(as in monitoring plan of POA-DD/VPA-DDS):**	$B_{y,savings}$
Unit	Tonnes/ year
Measuring frequency/Time Interval:	Annually/ biennially (31/10/2023 – 15/12/2023)
Reported value	4.6247 tonnes
Verified Source of Data	Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered POA-DD/VPA-DDS:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Annex 3: Checklist for evaluating the compliance of project with requirement and guidelines -Usage rate requirement (2.0)

Section	Sub Section	Criteria	VVB response
1. Scope and applicability	N/A	a. VVBs the project/PoA undergoing certification involve any one or more of the following technologies: solid, gaseous fuel based improved cooking technologies for example firewood, charcoal based improved cookstove, household biogas digesters, solar cookers, etc.?	Yes, the project activity involves the distribution of improved cookstoves.
		b. If there is any conflict with the TPOA-DD/VPA-DDSTEC methodology, are all the rules and requirements contained in this Annex given precedent and followed by the project/PoA?	There is no conflict observed with the TPDDTEC methodology.
2. Requirements and guidelines	2.1 Levels of usage	a. Has the project/PoA clearly specified the usage monitoring requirement level in the POA-DD/VPA-DDS/VPA-DD?	Yes, please refer section B.7.1 of the VPA-DD/B05-2/
		b. Has the project/PoA correctly applied the level of usage and associated monitoring requirements in accordance with the claimable usage rates?	Yes. As per the article 2.3 of the guideline/B07/, Good practice level of usage with maximum 90% usage rate has been applied /16/
		c. In case the project/PoA applies a different level of usage as compared to the registered POA-DD/VPA-DDS, have the monitoring requirements from the levels below been followed?	The MR has also followed Good practice usage level which is explained in section D.4 of MR/01/
		a. Has the project/PoA defined project technology “use” and “non-use” (Step 1) and documented the criteria applied for defining them in the POA-DD/VPA-DDS(s)?	Use and Non-use has not been defined in the VPA DD/B05-2/. The use and non use is defined in section D.4 of MR/01/.
		b. Is the project’s definition of “use” and “nonuse” correct and their documentation of the criteria applied for defining this done correctly?	The definition for use and non use has been added in the section D.4 of the MR/01/.
		c. Has the project/PoA correctly identified criteria to	Yes, the use and non use project technology has been identified during the

	2.2 Mandatory monitoring requirements	define use and non use considering the representative cooking practices and likely project technology use?	monitoring survey and can be assessed from the habitat survey sheet/05/.
		d. Has the project developer carried out in-person household usage surveys (Step 2) by: i. Determining the minimum sample size for the survey as per the methodology requirements? ii. Performing the following monitoring activities, at minimum, as per the requirements of this Annex: Kitchen observation, interview of the primary cook, taken photos of the cooking areas and recorded the GPS coordinates of the household?	d. i. yes, the detailed sampling procedure is given in section D.4 of MR/01/ ii. yes, the questionaries conducted and the photographs taken during monitoring survey has been verified by VVB
		e. Has the project developer performed the verification checks (Step 3) prior to the verification by the VVB?	Yes, the same has been verified on the basis of the review of call records and verification checks spreadsheet/18/ provided by PP.
		f. Has the project developer kept a record of the verification checks containing the details. of households and their responses?	Yes, the records are also provided to the VVB in the file "VPA_2_MP2_HabitSurvey"
		g. VVBs the evidence establish a clear relationship between the usage claimed by the project and observations made during the in-person household surveys?	Yes, the observation provided in the evidence /16/ has been cross checked with the ER sheet/02/ and VVB confirms that the evidence establishes a clear relationship between the usage rate claimed by project and observations made in in-person surveys.
	2.3 Good practice monitoring requirements for improved cooking devices.	a. Has the project/PoA successfully met all the mandatory usage rate requirements?	VVB confirms that the project met all the mandatory usage rate requirement defined in the section 2,2 of REQUIREMENTS AND GUIDELINES: USAGE RATE MONITORING version 2.0./B07/
		b. Is the project/PoA eligible to apply the good practice monitoring requirements?	Yes, PP has followed all procedure required for the mandatory as well as good practice usage requirements as provided in section D.4 of MR/01/
		c. Has the project developer carried out the following monitoring activities as per the relevant requirements: i. Field team training and supervision ii. End-user training and follow-up visits? Awareness campaign?	Based on the review of the section D.4 of MR/01/ and its supporting documents/09/. VVB confirms that the monitoring activities have been carried out as per the requirement.
		d. Has the project developer provided evidence for trainings, follow up site visits,	Yes, the evidence/09/ have been provided to VVB and verified.

		awareness campaign?	
		e. In VVB's opinion, i. Can the effectiveness of the trainings, follow up site visits and awareness campaigns be confirmed? ii. Should project developer make changes in registered trainings, site visits and awareness campaigns to enhance the effectiveness?	i. Based on the review of the MR/01/, and supporting documents, VVB confirms that the trainings, follow up visits and awareness campaigns are deemed to be effective, and ii. No further changes are required.
	2.4 Best practice monitoring requirements	a. Has the project/VPA successfully met all the mandatory & good practice usage rate requirements?	PoA has not opted for this level of usage, and therefore not applicable for this PoA
		b. Is the project/PoA eligible to apply the best practice monitoring requirements?	
		c. Has the project developer carried out stove use monitoring activities as per the relevant requirements?	
		d. Has the project developer correctly calculated the stove use based on the stove use monitoring?	
3. Determination of usage rate ($U_{p,y}$)		a. Has the project developer applied the applicable cap at individual age-group?	Yes, verified based on review of ER sheet /02/, tab "Upy".
		b. Has the project developer appropriately applied the weighted-average usage rate quantification approach to each monitored project technology age group?	Yes,

Annex 4: Questions from the PP's habit survey for monitoring the SDGs

SDG 13:

- $U_{p,y}$ & $LE_{p,y}$: (how many days since stove is used, if stove warm, is soot present in the stove, if the stove is ashy, frequency of using the stove, why low use of stove, why stove not used, if alternative stove used, type of alternative stove, frequency of using the alternative stove,)
- $N_{p,y}$ (based on the duration on the monitoring period and the number of devices)
- $B_{p,y,l}$ (KPTs/08/ are conducted to determine the amount of fuel used in the project scenario)

SDG 1:

- BSA/HHS: (is money saved due to reduction in wood used, amount of money saved by wood reduction, is money saved in the new stove, amount of money saved from the new stove)

SDG 3:

- SPM_{HH} (Blackening of pots used, smoke from the stove,)

SDG 5:

- HHTS: (is time saved in collecting wood, time saved in wood collection, time saved in cooking, amount of time saved in cooking, cooking time in project ICS compared to baseline scenario)

SDG 7:

- $AACS_{HH}$ (time to get hot, fire start difficulty, fire stability, temperature control, difficulty in cooking, wood consumption, heating performance, stove durability, stove maintenance)

SDG 8: QE IG (employment records/13/ provided by the PP)

SDG 12: $B_{y,savings}$ (KPTs/08/ are conducted to determine the amount of fuel used in the project scenario)