



**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 – VPA 4 (Zambia) (GS11604)
Scale of the project activity	☒ Large-scale ☐ Small-scale
Version number of the verification and certification report	03
Completion date of the verification and certification report	13/03/2025
Monitoring period number and duration of this monitoring period	MP2: 16/04/2023 – 19/06/2024 (Inclusive)
Version number of the monitoring report to which this report applies	1.6 dated: 11/03/2025
Crediting period of the project activity corresponding to this monitoring period	16/04/2021 – 15/04/2026 (inclusive)
Project representative(s)	The African Stove Company Ltd. (TASC);
Host Party	Zambia
Applied methodologies and standardized baselines	Technologies and Practices to Displace Decentralized Energy Consumption (version 3.1)
Mandatory sectoral scopes	03
Conditional sectoral scopes, if applicable	-
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered VPA-DD	6,353 (tCO ₂ e)
Certified amount of GHG emission reductions or GHG removals for this monitoring period	5,901 (tCO ₂ e)
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 Ltd.
Name, position and signature of the approver of the verification and certification report	 Amit Anand, CEO

SECTION A. Executive summary

Carbon Check (India) Private Ltd. (CC IPL) is performing the second periodic verification of the GS project "TASC Clean Cooking PoA – VPA 4 (Zambia)" (GS project id: GS 11604) for the period 16/04/2023 – 19/06/2024 (Inclusive). The VPA will stimulate the installation of Jikokoa charcoal stove manufactured by Burn Manufacturing LLC, with a thermal efficiency of 53.7%. All the stoves were distributed from 16/04/2021 across Zambia and not limited to any specific provinces.

According to the VPA-DD /B04/ & MR /01/, the project activity "TASC Clean Cooking PoA – VPA 4 (Zambia)" is part of TASC Clean Cooking PoA (GS11009) and is implemented in Zambia. The African Stove Company Ltd. (TASC) is the coordinating/managing entity (CME) and also the implementer of the VPA. 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 Zambia.

This report summarises the findings of the verification of the project, performed on the basis of 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 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 4 (Zambia)" in the host country "Zambia" for the period 16/04/2023 – 19/06/2024 (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, is sufficient, definitive and presented in a concise and transparent manner. CC IPL'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 and conservative assumptions, as documented. It is also confirmed if the monitoring plan is in compliance with the registered VPA-DD and the approved monitoring methodology.

Scope:

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered VPA-DD
- To verify the implemented monitoring plan with the registered VPA-DD 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/ over the monitoring period from 16/04/2023 – 19/06/2024 (Inclusive) and based on the registered VPA-DD /B04/ as part of the monitoring parameters and monitoring plan, emission reduction calculation spreadsheet, monitoring methodology, and all related evidence provided by project participants.

Remote audit 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/, meet all relevant requirements of the Gold Standard as per the requirements of GS4GG. The verification has been conducted in-line with the GS4GG requirements/B03/

The project activity was correctly implemented according to the selected monitoring methodology, monitoring plan and the registered VPA-DD /B04/. 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. The following table provides the resulted emission reduction from the project as verified through the document review and remote audit interviews by the verification team.

Vintage	ER (tCO₂e)
16/04/2023 – 31/12/2023	3,409 tCO ₂ e
01/01/2024 – 19/06/2024	2,493 tCO ₂ e
Total for the monitoring period	5,902 tCO₂e

CC IPL 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 /	IR	Choudhary	Aparna ¹	CC IPL	X		X	X

¹ Ms. Aparna's last working day is 11/02/2025

	Technical Expert								
2.	Assessor	IR	Bijani	Vishal	CC IPL	X		X	X
3.	Local Expert	ER	Sinyunga	Butano	CC IPL		X	X	
4.	Team Leader / Verifier / Technical Expert	IR	Suhail	Muhammed	CC IPL	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	IR	C	Indumathi	CC IPL
2.	Approver	IR	Anand	Amit	CC IPL

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 review of data and information presented to verify their completeness and review of the monitoring plan and monitoring methodology. Documents reviewed or referenced during the verification are listed in Appendix 2 below.

C.2. Remote Audit

Remote audit has been performed for the current monitoring period. As per the Gold Standard Site Visit and Remote Audit Requirements and Procedures – V2.0 /B06/ section 3.1 “At minimum, the VVB shall conduct physical site visit within two years of project start date and Once within every three years after the first physical site visit date”. And section 4.1.1 (b) “In case of PoA verification, the remote audit can only be conducted if verified emission reduction for an audit instance is less than 200,000 tCO₂e in total”. As the on-site visit for the first monitoring period was conducted on 14/09/2023 to 16/09/2023, and the ERs claimed for the current monitoring period are 5,902 tCO₂e, remote audit is being conducted in line with the Gold Standard Site Visit and Remote Audit Requirements and Procedures – V2.0. /B06/

VVB has also carried out the risk assessment in accordance with the Annex 1 of the Site Visit and Remote Audit Requirements and Procedures, version 2.0 /B06/:

S. No.	Risk Identified	Justification
For all certification stages:		
1.	Risk of non-conformity with core GS4GG principles including but not limited to safeguarding principles, stakeholder inclusivity, SDG Impacts.	Not applicable
2.	Risk of non-conformity with potential reversal of GHG benefits and other SDG Impacts.	Not applicable
3.	Risk of non-conformity with key methodological requirements (applicability conditions, project boundary, identification of baseline	Not applicable

	scenario, algorithms and/or formulae used to determine emission reductions, monitoring methodology).	
4.	Risk of any negative feedback/observations received from GS stakeholders, e.g., TAC, end-users, NGO supporters etc, not being addressed sufficiently by the project.	Not applicable
5.	Risk of key stakeholders and/or end users of project technology not willing/able to be interviewed through telephone/videocalls.	Not applicable
For Verifications		
6.	Any outstanding FAR(s)/pending issue(s) since the previous physical site visit.	There are no outstanding FARs from the previous verifications. Thus, no risk is anticipated.
7.	Any design change(s)/temporary deviation(s) since the previous physical site visit.	There are no design changes temporary deviation(s) since the previous physical site visit. Thus, no risk is anticipated.
8.	Any gaps in monitoring data, if any, that cannot be justified as per applicable requirements.	There are no gaps in monitoring data that are identified during the verification. Thus, no risk is anticipated.

Furthermore, VVB has considered the Site Visit and Remote Audit Requirements and Procedures, version 2.0/B06/ for conducting the remote audit.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
/01/	Shamab anse	Peter	TASC	05/08/2024 to 08/08/2024	VPA Design, Organization Structure, Stove Distribution Mechanism, Details of survey, methodology, Survey results, QA/QC procedure etc.	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/02/			TASC	05/08/2024 to 08/08/2024	MR preparation, GS requirements, Emission reduction calculations, methodology applicability, start date justification, Project Design, ownership details, carbon credit ownership arrangements, monitoring and reporting arrangements, QA/QC procedures, baseline assessment, Project technology etc.	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/03/	Mafinge	Edina	Habit	05/08/2024	Habit Surveys	Apama

			survey participant	to 08/08/2024	Questionnaire	Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/04/	Kapata	Fredrick	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/05/	Sakala	Faides	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/06/	Shakata	Precious	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/07/	Miyanda	Emelda	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/08/	Goma	Thomas	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/09/	Miti	Georgina	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga

/10/	Singovwe	Naomi	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/11/	Kunga	Andrew	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/12/	Mubita	Ester	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/13/	Sakala	William	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/14/	Mwaba	Regina	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/15/	Lumbo	Nene	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/16/	Kapempa	Fredrick	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga

/17/	Sumaili	Joyce	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/18/	Sandon de	Justina	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/19/	Mwansa	Claden	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/20/	Malasha	Elizabeth	Habit survey participant	05/08/2024 to 08/08/2024	Habit Surveys Questionnaire	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/21/	Kikuma	Loveness	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/22/	Mukankila	Doris	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/23/	Sakala	Faides	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/24/	Shakata	Precious	KPT	05/08/2024	KPT Survey	Apama

			Survey Participant	to 08/08/2024		Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/25/	Mwewa	Morren	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/26/	Goma	Thomas	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/27/	Mwaba	Regina	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/28/	Chisenga	Museli	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/29/	Mweemba	Pamela	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/30/	Lumbo	Nene	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/31/	Mulubila	Grace	KPT Survey	05/08/2024 to	KPT Survey	Apama Choudhary

			Participant	08/08/2024		(remote), Vishal Bijani (remote), Butano Sinyunga
/32/	Malasha a	Elizabeth	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/33/	Chinyan ta	Glenda	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga
/34/	Jenkins	Jhonathan	KPT Survey Participant	05/08/2024 to 08/08/2024	KPT Survey	Apama Choudhary (remote), Vishal Bijani (remote), Butano Sinyunga

C.4. Sampling approach

As the target population is homogeneous, PP has proposed 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. 9.0 /B05/ in accordance with the paragraph 27 of the sampling standard.

In line with paragraph 27 of the Sampling Standard, the verification team has applied simple random sampling approach through remote audit interviews on the monitoring survey as part of verification. The project participant had applied sampling approach to the monitoring survey /10/, conducted by the representatives of project participant. The verification team has chosen acceptance sampling in accordance with paragraph 27 of the sampling standard /B05/.

The verification team of the VVB has applied a sampling approach for remote audit as part of verification in accordance with the paragraph 25 of the Standard: Sampling and surveys for CDM project activities and programmes of activities, version 9/B05/. In accordance with the paragraph 28 of the sampling standard/B05/, acceptance sampling has been chosen by the verification team and accordingly steps listed in paragraph 28 of the sampling standard shall be followed. Verification team has opted for AQL of 1.0 % and UQL of 15 % in accordance with the paragraph 30 of the sampling standard/B05/; producer risk of 05 % and consumer risk of 20 % paragraph 31 of the sampling

standard/B05/ in determining the VVB's sample size. Accordingly, remote audit for 19 households/Samples per CPA from the PP's sample size for the project for the monitoring period with acceptance number (c) as 1 for Habit Surveys. For KPT, the verification team has opted for AQL of 1.0 % and UQL of 20 % in accordance with the paragraph 30 of the sampling standard/B05/; producer risk of 05 % and consumer risk of 20 % in accordance with the paragraph 31 of the sampling standard/B05/ in determining the VVB's sample size. In accordance with the paragraph 39(c) of the sampling standard/B05/remote audit for 14 households/samples with acceptance number (c) as 1.

The Information provided in the monitoring survey /10/, has been cross checked during the remote audit. As a part of simple random sampling, the Verification team could confirm the monitoring survey data /10/ 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
Habit surveys/10/	Sampling Survey	119 samples	19 samples for habit survey
KPT Surveys/09/	Sampling Survey	56 samples	14 samples for KPT

The details of the sample interviewed are listed in section C.3 (under the list of interviewed persons). 19 samples for Habit surveys (Acceptance number c=1) and 14 samples for the KPT survey (Acceptance number c=1). For the habit survey (19 samples) and the KPT survey (14 samples) conducted, there was no discrepancy recorded by the VVB. Thus, PP's set of records are deemed to be appropriate and has been accepted in line with §33 of the sampling standard (version 09.0) /B05/. For the impact parameters, questionnaire was prepared and was used during the survey by the PP. During the remote audit interviews, the verification team cross-checked these sample documents, and no discrepancies were found in the impact parameters as well. They were also interviewed to ensure that the process, method used, and their competency to confirm such standardised test were appropriately applied. The sampling technique to draw such samples were found adequate and the sample collectors were found competent to perform such task.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

The VVB had raised 01 clarifications (CLs) and 10 corrective action requests (CARs) and satisfactorily closed.

SECTION D. Verification findings

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

There were 02 forward action requests from the validation, and 01 FAR from the first verification and all have been closed. This is the second monitoring period for the VPA.

FAR 1: During this validation VVB did not conduct a physical site visit and conducted a remote audit instead. As per GS document Site Visit and Remote Audit Requirements and Procedures v 1.0 dated 17/11/2021, §3.2.2 A physical site visit by VVB is mandatory at the first verification of a project.

PP's response: The VVB carried out a physical site visit from 14/09/2023 – 16/09/2023, thereby fulfilling the requirement for a physical site visit before the first verification of the project.

VVB's assessment: on-site visit was conducted from 14/09/2023 to 16/09/2023, refer to section C.3 of this FVR.

FAR 2: An onsite LCS shall be conducted prior to the 1st monitoring. The LCS report shall be updated accordingly. All stakeholders inputs shall be describe in Section G of the monitoring report. Verifying VVB shall provide details assessment in FVR.

C The in person local stakeholder consultation was completed on 19/05/2022 followed by a 2-month stakeholder consultation round. The details of this consultation are outlined in section G of this monitoring report.

VVB's response: in-person LSC has been conducted on 19/05/2022 and a 2-month stakeholder consultation round from 27/06/2022 to 27/08/2022. PP has provided a LSC report/11/ and information on LSC in section G.1 of the MR/01/. VVB's assessment can be found in section D.2 of this FVR.

FAR1: In the registered VPA DD, the baseline scenario is identified as the households using charcoal for day to day cooking purpose. However during the onsite survey, VVB has observed that the following household were using the higher efficient cookstoves such as Electric stove and LPG in the baseline scenario.

- 148617766 (Peter Munenga)
- 148569563 (Christon Sinkala)

Therefore PP is requested to remove these households from the database in upcoming monitoring periods.

During the onsite visit and interviews, VVB has observed that the following stoves were damaged beyond repairs and as notified by the households, the stoves were neither repaired nor replaced.:

- 148581172 (Mercy Kapata)
- 148569563 (Christon Sinkala)
- 148643312 (Diana Chibwe)

Therefore PP is requested to remove these household from the database in upcoming monitoring periods

PP's response: Stove serial numbers 148617766 (Peter Munenga) and 148569563 (Christon Sinkala): The baseline scenario was assessed at validation prior to the project implementation, and it is not the baseline scenario that is being assessed in this verification. Solwezi is a peri-urban area and many of the households do have access to electricity/LPG and may own an electric/LPG stove, however, this does not mean that they are using an electric/LPG stove as their primary stove. Many do not use it at all as electricity and LPG are expensive. The primary stove captured in the baseline scenario for the VPA was a charcoal brazier (traditional stove) and the primary fuel type was charcoal – this scenario was assessed, validated and certified at the VPA inclusion stage. In an improved cookstove project the baseline scenario is compared with the project scenario (for each MP) and emission reductions are based on the reduction in fuel being used. This is also why KPTs are the most accurate way of monitoring this parameter value, because they isolate fuel use in the household (i.e. only charcoal use), so that there is a clear like-for-like comparison between the baseline device and the project device using the same fuel; any other fuel use is not captured as it is not relevant to the project as the project only places focus on the reduction of charcoal being used, not electricity or LPG. However, in accordance with this FAR, these stoves will be excluded from the database for future monitoring periods.

Stove serial number 148569563 (Christon Sinkala): This household, discovered to have a damaged stove, participated in a habit survey during May 2022 (for MP1), where they reported the stove as intact and in daily use. During the verification site visit in September 2023, the household disclosed that the stove had sustained damage within the last approximately three months, which was not captured in the May 2022 surveys. To facilitate reporting of stove damage, all households received leaflets with TASC contact details upon receiving their stoves.

Stove serial numbers 148643312 (Diana Chibwe) and 148581172 (Mercy Kapata): These stoves were reported as damaged within the two months preceding the site visit in September 2023. Despite this, they were found to be operational during the monitoring period, as confirmed by the habit survey.

However, now that the damage has been identified, all three of these stoves will be excluded from the database for future monitoring periods.

VVB's response: the verification has checked through the distribution records /04/ of the VPA for the stove IDs 148617766, 148569563 148581172, 148569563, 148643312 are no longer part of the VPA, and are not considered in the ER calculations. Hence, the FAR is closed.

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

Means of verification	Document Review, Interview
Findings	--
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 remote audit interview, the audit team confirm the project implementation and operation complies with the VPA-DD/B04/. The starting date of stove distribution/04/ is 16/04/2021 which is confirmed from the registered VPA-DD /B04/ and validation report /B04/. The project boundary in the registered VPA-DD /B04/ is in line with the actual project boundary. CC IPL confirms that the project cookstoves are operational through remote audit 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) /B02/. The first ICS's distribution was started from 16/04/2021. A total of 1,098 (VPA4) cookstoves were distributed in the VPA. Each stove is assigned a unique serial number, and no new distribution occurred in the current monitoring period, the same was confirmed upon review of the distribution database/04/ of the VPA. Verification team based on the review of the 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 remote audit interviews, the project

	implementation and operation, all physical features of the project comply with the VPA-DD /B04/. Verification team has checked the information in the monitoring report /01/ and compared it against the registered VPA-DD /B04/ and found to be consistent. Verification team confirms that: a) The project activity is implemented as per registered VPA-DD/B04/. b) The actual operation of the proposed project activity is in line with the registered/revised VPA-DD /B04/. c) It has reviewed the registered VPA-DD /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 has reviewed the LSC report /11/ of the joint stakeholder consultation and stakeholder feedback round was conducted for GS11145 TASC Clean Cooking PoA – VPA 1 (Zambia), GS11596 TASC Clean Cooking PoA – VPA 3 (Zambia), GS11604 TASC Clean Cooking PoA – VPA 4 (Zambia), the date of in-person consultation was 19/05/2022 and the stakeholder feedback round was held from 27/06/2022 to 27/08/2022. Verification team of CCIPL based on review of records and remote audit interviews confirms that a robust and effective grievance addressal mechanism is in place and however, no grievances were reported during the monitoring period/11/. In summary, the monitoring period is reasonable, and the operation of the project activity is in accordance with the registered/revised VPA-DD /B04/.
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D.3. Post-registration changes

D.3.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents²

Not applicable

D.3.2. Corrections

PP has revised the method of calculation to be in line with the applied methodology /B02/ equation 1, which is applicable if the project and baseline fuels and emission factors are same. Previously, the calculation were done as per the validated VPA-DD. On the review of the MR/01/ and the ER sheet /02/ it is observed that the resulting ERs from both the calculation approach are identical and the correction in the calculation approach is deemed appropriate.

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

Not applicable

D.3.4. Inclusion of a monitoring plan

Not applicable

² 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).

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 Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1 /B02/. The monitoring plan is in accordance with the approved methodology, Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1 /B02/, applied by the VPA and as provided in the included VPA-DD /B04/. The verification took cognizance of § 341 to § 343 of CDM VVS for PoAs, version 03.0 /B01-1/.

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	Assessm ent by VT
	B _{b,y}	Quantity of fuel consumed in baseline scenario b during year y, in tonnes	2.5630 tonnes	Baseline kitchen performance tests (KPTs)	The value is consistent with included VPA -DD /B04/ 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	Fuel: 3.304 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 /B04/ 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 baseline scenario	Fuel: 0.173 tCO ₂ /t _{fuel}	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5-- Residential Source Emission Factors.	The actual value is based on the IPCC guidelines and is slightly different from the value reported in the included VPA -DD /B04/ and 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	Fuel: 3.304 tCO ₂ /t _{fuel}	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5-- Default emission factors for	The value is consistent with included VPA -DD /B04/ and fixed ex - ante for the duration of the

				stationary combustion in the residential and agriculture/ forestry/ fishing/fishing farms categories	crediting period.
	EF_{p,i,nonCO2}	Non-CO ₂ emission factor arising from use of fuel type i in project scenario	Fuel: 0.173 tCO ₂ /t _{fuel}	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5—Residential Source Emission Factors.	The actual value is based on the IPCC guidelines and is slightly different from the value reported in the included VPA -DD /B04/ and fixed ex - ante for the duration of the crediting period.
	NCV_{b,i}	Net calorific value of the fuel type i used in the baseline	Fuel: 0.0295 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 /B04/ 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	Fuel: 0.0295 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 /B04/ 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-renewable biomass	Fuel: 0.91 Renewable solid biomass fuels (Crop residues / cow dung): 0.0000 Fossil fuels: 1	From C4 EcoSolutions report dated: 11/03/2022 /16/	The value is consistent with included VPA-DD /B04/ and the fNRB report and fNRB calculation sheet/16/ and fixed ex-ante for the duration of 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, §345I) 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	CAR 01 had been raised and has been resolved.
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/02/ and found no gap in the same. Please refer to the Annex 4 for assessment of each parameter.

D.5.3. Implementation of sampling plan

Means of verification	Document Review, Interview
Findings	CL02 had been raised and has been resolved.
Conclusion	PP's sampling approach: 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 for habit surveys is 119 based on a confidence interval/precision level of 90/10. The precision level achieved for the sample size is 0%. 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 119 households to account for the non-responses and is acceptable to the verification team.

The sample size for KPT surveys based on a confidence interval/precision level of 90/10 is 56. 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 7.3% being achieved which falls within the 90/10 precision.

The Usage Rate used by the PP for the VPA is 79% based on the Good Practice. Checklist for evaluating the compliance of project with requirement and guidelines -Usage rate requirement has been provided in annex 3 of this document.

VVB's sampling approach:

The verification team of the VVB has applied a sampling approach for remote audit as part of verification in accordance with the paragraph 25 of the Standard: Sampling and surveys for CDM project activities and programmes of activities, version 9/B05/. In accordance with the paragraph 28 of the sampling standard/B05/, acceptance sampling has been chosen by the verification team and accordingly steps listed in paragraph 28 of the sampling standard shall be followed. Verification team has opted for AQL of 1.0 % and UQL of 15 % in accordance with the paragraph 30 of the sampling standard/B05/; producer risk of 05 % and consumer risk of 20 % paragraph 31 of the sampling standard/B05/ in determining the VVB's sample size. Accordingly, remote audit for 19 households/Samples per CPA from the PP's sample size for the project for the monitoring period with acceptance number (c) as 1 for Habit Surveys. For KPT, the verification team has opted for AQL of 1.0 % and UQL of 20 % in accordance with the paragraph 30 of the sampling standard/B05/; producer risk of 05 % and consumer risk of 20 % in accordance with the paragraph 31 of the sampling standard/B05/ in determining the VVB's sample size. In accordance with the paragraph 39(c) of the sampling standard/B05/ remote audit for 14 households/samples with acceptance number (c) as 1.

Parameter	Verification approach	Population (for VVB's sample)	VVB's Sample Size
B _{P,y,i}	ASP	56	14
Up,y	ASP	119	19
LEp,y			
SPM _{HH}			
HHTS			
B _{y, savings}			

	The Information provided in the monitoring survey /10/, has been cross checked during the remote audit. As a part of simple random sampling, the Verification team could confirm the monitoring survey data /10/ with no discrepant records. Thus, PP's set of records has been accepted in line with § 33 of the sampling standard, version 09 /B05/.
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D.6. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Document Review, Interview										
Findings	--										
Conclusion	<table border="1"> <thead> <tr> <th>Instrument</th><th>Purchase Date/Calibration date</th></tr> </thead> <tbody> <tr> <td>Ryobi MM-210 2 in 1 moisture testers</td><td>06/03/2024</td></tr> <tr> <td>200kg Portable Mini Crane Scale SJ-19</td><td>05/03/2024</td></tr> <tr> <td>50kg scales</td><td>05/03/2024</td></tr> <tr> <td>100kg scales</td><td>23/05/2024</td></tr> </tbody> </table> The manufacturer specification provided for the products /15/ and the invoices /14/ are reviewed and it confirms that the devices used in the KPT surveys are newly purchased.	Instrument	Purchase Date/Calibration date	Ryobi MM-210 2 in 1 moisture testers	06/03/2024	200kg Portable Mini Crane Scale SJ-19	05/03/2024	50kg scales	05/03/2024	100kg scales	23/05/2024
Instrument	Purchase Date/Calibration date										
Ryobi MM-210 2 in 1 moisture testers	06/03/2024										
200kg Portable Mini Crane Scale SJ-19	05/03/2024										
50kg scales	05/03/2024										
100kg scales	23/05/2024										

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	CAR 02 was raised and has been resolved.
Conclusion	The SDG Impacts in the baseline scenario are calculated as follows: SDG 13: Climate Action $BE_{b,y}$ Baseline emissions for baseline scenario b in year y (tCO₂e/yr) = 7,783 $BE_{b,y} = \sum_{b,p} N_{p,y} * U_{p,y} * (ER_{b,p,y,CO2} + ER_{b,p,y,nonCO2}) - \sum LE_{p,y}$ Where: $\sum_{b,p}$ Sum over all relevant (baseline b) couples = 1,098 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 = 1,098 * Total Technology days * (1 - damaged stove discount (10%)) = 444,450 $U_{p,y}$ Cumulative usage rate for technologies in baseline scenario p in year y, = 79%

	ER_{b,y,CO_2}	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 = 0.0211 tCO ₂ /day
	$ER_{b,y,nonCO_2}$	Specific non-CO ₂ emission savings for an individual technology of Baseline b in year y , in tCO ₂ as derived from the statistical analysis of the data collected from the field tests = 0.0011 tCO ₂ /day
	$ER_{b,y,CO_2} =$	$\sum_i \{ f_{NRB,b,i,y} * B_{b,y,i} * NCV_{b,i} * EF_{b,i,CO_2} \}$
	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) = 0.91
	$B_{b,y,i}$	Fuel consumption for fuel type i used in baseline b in year y in tonnes, from baseline KPTs = 2.5630t
	$NCV_{b,i}$	Net calorific value of the fuel type i used in baseline b (TJ/tonnes) = 0.0295
	EF_{b,i,CO_2}	CO ₂ emission factor of the fuel type i used in the baseline = 3.304 tCO ₂ /tonne of charcoal
	i	Fuel Type
	$ER_{b,y,nonCO_2} =$	$\sum_i \{ B_{b,y,i} * NCV_{b,i} * EF_{b,i,nonCO_2} \} - \sum_i \{ B_{p,y,i} * NCV_{p,i} * EF_{p,i,nonCO_2} \}$
	Where:	
	$EF_{b,i,nonCO_2}$	non-CO ₂ emission factor of the fuel type i used in the baseline = 0.173 tCO ₂ /tonne of charcoal
	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 = 2.5630t (KPT value retrieved from Baseline KPT's) The overall baseline emission for the monitoring period is 7,783 tCO₂e/yr.
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D.7.2. Calculation of project value of each SDG Impacts

Means of verification	Document Review, Interview
Findings	--
Conclusion	The SDG Impacts in the baseline scenario are calculated as follows: SDG 13: Climate Action The overall GHG reductions achieved by the project activity will be 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 (tCO₂e/yr) = 5,902 $BE_{b,y}$ Baseline emissions for baseline scenario b in year y (tCO₂e/yr) = 7,783 $PE_{p,y}$ Project emissions for project scenario p in year y (tCO₂e/yr) = 1,880 $LE_{p,y}$ Leakage for project scenario p in year y (tCO₂e/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 = 1,098 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 = 1,098 * Total Technology days = 444,450 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) = 79%
$ER_{b,p,y,CO2}$	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 = 0.01601 tCO ₂ e/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 = 0.00084 tCO ₂ e/day
$LE_{p,y}$	Leakage for project scenario p in year y (See Section E.3) = 0% = 0 tCO ₂ e/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) = 0.91
$B_{b,y,i}$	Fuel consumption for fuel type i used in baseline b in year y in tonnes, from baseline KPTs = 2.5630t
$B_{p,y,i}$	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 = 0.6190t
$NCV_{b,i}$ (TJ/tonnes)	Net calorific value of the fuel type i used in baseline b = 0.0295
$NCV_{p,i}$ (TJ/tonnes)	Net calorific value of the fuel type i used in project p = 0.0295
$EF_{b,i,CO2}$	CO ₂ emission factor of the fuel type i used in the baseline = 3.304tCO ₂ /tonne of charcoal
$EF_{p,i,CO2}$	CO ₂ emission factor of the fuel type i used in the project = 3.304 tCO ₂ /tonne of charcoal
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

$EF_{p,i,nonCO2}$ 0.173 tCO₂/tonne of charcoal
non-CO₂ emission factor of the fuel type *i* used in the project

LE_y = 0.173 tCO₂/tonne of charcoal
Leakage for project scenario *p* in year *y*
= 0%

SDG 1: No Poverty

Net Benefit (SDG 1) = $BSA_{Project} - BSA_{Baseline}$
= 1,098

Where:

$BSA_{Baseline}$ Number of ICS distributed in baseline = 0
 $BSA_{Project}$ Number of ICS distributed in Project = 1,098

Net Benefit (SDG 1) = $HHS_{Project} - HHS_{Baseline}$
= 100%

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 = 100% (HS 1& 2)

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) = $HHTS_{Project} - HHTS_{Baseline}$
= 99%

Where:

$HHTS_{Baseline}$ % HH reporting time saving from cooking on a more efficient stove
= 0
 $HHTS_{Project}$ % HH reporting time saving from cooking on a more efficient stove
= 99%

SDG 7: Affordable and Clean Energy

Net Benefit (SDG 7) = $ACS_{Project} - ACS_{Baseline}$
= 1,098

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)
= 1,098

SDG 8: Decent Work and Economic Growth

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

	= 18 Where: QE IG_{Baseline} Quantitative Employment and income generation (Number of person (male and female) hired under Baseline) = 0 QE IG_{Project} Quantitative Employment and income generation (Number of person (male and female) hired under Project) = 18 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) = 1.9439t $B_{b,y,i}$ Fuel consumption for fuel type <i>i</i> used in baseline <i>b</i> in year <i>y</i> in tonnes, from baseline KPTs = 2.5630t $B_{p,y,i}$ Fuel consumption for fuel type <i>i</i> used in project <i>p</i> in year <i>y</i> in tonnes, as derived from the statistical analysis of the data collected from the field tests = 0.6190t CC IPL 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.
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D.7.3. Calculation of leakage GHG emissions

Means of verification	Document Review, Interview
Findings	NA
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	CAR 03 was raised and has been resolved.
Conclusion	As per paragraph 4.1.12 of GS Principles and Requirements/B03/, Gold Standard projects demonstrate a clear, direct contribution to sustainable development, defined as making demonstrable, positive impacts on at least three Sustainable Development Goals (SDGs), one of which must be SDG 13 (defined herein as Emissions Reductions or Removals and/or Adaptation to climate change). As per section 3.1.3 of Guideline - The SDG Impact Tool Manual v.1.1 /B08/, The SDG Impact Tool application is mandatory for all new projects submitted certification under GS4GG for Preliminary Review after 14.03.2022 and projects (including new PoAs and their VPAs) submitted for design certification review and renewal after 14.03.2022. This VPA contributes to 7 SDGs including SDG 13 as per the VPA DD /B04/ and the MR /01/.

	SDG Impact	Baseline values	Project values	Net benefit
13	Tonnes CO ₂ equivalent emissions	7,783	1,880	5,902
1	Number of ICS distributed	0(ICS distributed)	1,098 (ICS distributed)	1,098 (ICS distributed)
3	% HH reported reduction in smoke/PM Emissions while cooking on ICS	0	100%	100%
5	% HH reporting time saving from cooking due to more efficient stove	0	99%	99%
7	Access to affordable and clean energy (number of ICS distributed)	0	1,098	1,098
8	Quantitative employment and income generation (Number of persons hired)	0	18	18
12	Charcoal fuel savings while cooking on project ICS in tonnes per annum	2.5630	0.6190	1.9439
The data presented in the monitoring report /01/, SDG impact tool /20/ 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 were 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 VPA-DD

Means of verification	Document Review, Interview
Findings	CAR04 was raised and has been resolved.
Conclusion	The ex-ante estimate value of the emission reductions for the monitoring period as per the registered VPA-DD /B04/ is 6,353 tCO ₂ e, the actual emission reductions achieved are 5,902 tCO ₂ e.

	SDG	Values estimated in ex ante calculation of approved VPA-DD	Actual values achieved during this monitoring period
	13	6,353 (tCO ₂ e)	5,902 (tCO ₂ e)
	1	1,127 (Number of ICS distributed)	1,098 (Number of ICS distributed)
	3	100%	100%
	5	100%	99%
	7	1,127 (Number of ICS distributed)	1,098 (Number of ICS distributed)
	8	30 (Number of persons hired)	18
	12	2.0857 (tonnes/year)	1.9439 (tonnes/year)
The emission reduction calculations provided in the spreadsheet /02/ have been verified to be correct and in line with the registered VPA-DD /B04/.			

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

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 VPA-DD /B04/ is 6,353 (tCO₂e) and the actual emission reductions achieved for the monitoring period is 5,902 (tCO₂e). For SDG 13, since actual emission reduction is lower than the estimated value and hence it is acceptable to the verification team. The monitoring report /01/ provides reason for decrease 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 assessment of the same is provided below: • SDG 1: The actual value is same as the estimated value, which is deemed appropriate and thus acceptable to the VVB. • SDG 3: The actual value is lower than the estimated value for, which is deemed appropriate and thus acceptable to the VVB. • SDG 5: The actual value is lower than the estimated value for, which is deemed appropriate and thus acceptable to the VVB. • SDG 7: The actual value is lower than the estimated value, which is deemed appropriate and thus acceptable to the VVB. • SDG 8: The actual value is less than the estimated value, due to less number of personnel hired for distribution and monitoring compared to the ex-ante estimates which is deemed appropriate and thus acceptable to the VVB. • SDG 12: The actual value is less than the estimated value the MP's, it is due to the ex-ante value is calculated based on the estimated

	fuel use and the ex-post value calculated as per the project KPT, which is deemed appropriate and thus acceptable to the VVB. • SDG 13: The actual value is lower than the estimated value, which is deemed appropriate and thus acceptable to the VVB.
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SECTION E. Internal quality control

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The verification report 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. (CC IPL) has performed the 2nd periodic verification of the registered GS Project Activity "TASC Clean Cooking PoA – VPA 4 (Zambia)".

The verification team assigned by the VVB concludes that the project activity as described in the VPA-DD /B04/ and the Monitoring report /01/, meets all relevant requirements of the Gold Standard. The verification has been conducted in line with the GS4GG requirements for 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 on 30/04/2024 /17/. 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 VPA-DD /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/;
- Remote audit inspection (05/08/2024 to 08/08/2024)
- Resolution of CARs and CLs raised during verification
- Issuance of Verification Report

The project activity was correctly implemented according to selected monitoring methodology, monitoring plan and the registered VPA-DD. 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 remote interviews, the verification team confirms that the project activity has resulted in emission reduction of 5,902 tCO₂e for the current monitoring period MP2.

This statement covers verification period:
16/04/2023 – 19/06/2024

The VVB has raised 01 clarifications and 10 corrective action requests and 00 forward action request.

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

The VVB, hereby certifies that the project activity, achieved emission reductions by sources of GHG equal to 5,902 tCO₂e for the MP 2 and all monitoring requirements have been fulfilled and is substantiated by an audit trail that contains evidence and records.

Vintage for MP1	ER (tCO₂e)
16/04/2023 – 31/12/2023	3,409 tCO ₂ e
01/01/2024 – 19/06/2024	2,493 tCO ₂ e
Total for the monitoring period	5,902 tCO₂e

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CER	Certified Emission Reduction
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CL	Clarification Request
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
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LE	Leakage Emissions
MP	Monitoring Period
MR	Monitoring Report
OSV	On Site Visit
PE	Project Emissions
PP(s)	Project Participant(s)
QC/QA	Quality Control/ Quality Assurance
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
VVB	Validation & verification Body

Appendix 2. Documents reviewed or referenced

S. No.	Document
/01/	1. Monitoring Report (Version 1.0 dated 11/07/2024) 2. Monitoring Report (Version 1.1 dated 27/08/2024) 3. Monitoring Report (Version 1.2 dated 16/09/2024) 4. Monitoring Report (Version 1.3 dated 19/09/2024) 5. Monitoring Report (Version 1.4 dated 20/09/2024) 6. Monitoring Report (Version 1.5 dated 08/01/2025) 7. Monitoring Report (Version 1.6 dated 11/03/2025)
/02/	1. Emission reductions sheet (Corresponding to /01-6/)
/03/	Evidence for avoidance of double counting dated: 10/09/2024
/04/	VPA distribution records
/05/	Training records (field training PPT and attendance sheets)
/06/	Jikokoa classic report: Lab report from the Kenya Industrial Research and Development (KIRDI) for the thermal efficiency testing of cookstoves dated 13/10/2020
/07/	Proof of Carbon Wavier certification dated 12/05/2022
/08/	Sample agreements with the end user demonstrating that stoves are free of cost.
/09/	KPT survey records: for MP2
/10/	Usage Monitoring Survey (Habit Surveys) MP2
/11/	LSC report 11/04/2022
/12/	Employment records
/13/	Survey CTO forms
/14/	Moisture meter invoice and scale invoices 1. Moisture_Meter_Invoice_VPA4 2. Scale_Invoice_VPA4
/15/	Manufacturer specification for monitoring equipment mentioned in /14/
/16/	1. Third Party fNRB report by C4 EcoSolutions dated: 11/03/2022

	2. fNRB calculation sheet corresponding to the fNRB report
/17/	Counter signed contract between PP and VVB dated: 30/04/2024
/18/	Grievance loggbok
/19/	Sensitization Events
/20/	SDG impact tool

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 1.8 dated 15/02/2023 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 2.0 dated 30/05/2023
/B07/	Cookstove Usage Rate Guidelines, version 2.0 dated 27/10/2020
/B08/	Guideline: General guidelines for SSC CDM methodologies Version 23.1
/B08/	1. SDG impact tool v1.3

	2. GUIDELINE - The SDG Impact Tool Manual v.1.1; dated 14/03/2022
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Appendix 3. Competence Certificates of Team Members



Carbon Check (India) Private Limited

Certificate of Competency

Ms. Aparna Choudhary

has been qualified as per CC IPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC 14065:2020, 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:

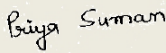
☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☐ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date

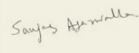
5th December 2023

Expiry Date

21st January 2025



Ms. Priya Suman
Compliance Officer



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

CC IPL_F M 7.9 Certificate of Competency_V4.0_112023

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



Carbon Check (India) Private Limited

Certificate of Competency

Butano Sinyunga

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), A 6.4 AS (V1.0) ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|--|---|--|---|
| ☐ Validator | ☐ Verifier | ☐ Team Leader | ☐ Technical Expert |
| ☐ Technical Reviewer | ☐ Validator/Verifier (Trainee) | ☐ Gender Expert | ☐ Plastic Waste Expert |
| ☐ CCB Expert | ☐ Legal Expert | ☐ Financial Expert | ☐ Environmental, Health and Safety financial matters |
| ☐ SDG Expert | ☐ Expert Social aspect | ☐ Expert Environment aspect | ☐ Health Expert |
| ☒ Regional Expert for Zambia | | | |

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

20th January 2025

Expiry Date

19th January 2026

Mr. Vikash Kumar Singh
Director - Compliance

Revision History of the document:

Revision date	Summary of changes
May 2023 ¹	Initial Adoption
April 2024	Revision due to A6.4 implementation
Jan 2025	Revised as per the latest organogram.

CC IPL_FM 7.9 Certificate of Competency_ V7.0_17012025

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



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Muhammed Suhail K

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), A 6.4 AS (V1.0) 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 | ☐ Validator/Verifier (Trainee) | ☐ Gender Expert | ☐ Plastic Waste Expert |
| ☐ CCB Expert | ☐ Legal Expert | ☐ Financial Expert | ☐ Environmental, Health and Safety financial matters |
| ☐ SDG Expert | ☐ Expert Social aspect | ☐ Expert Environment aspect | ☐ Health Expert |
| ☒ Regional 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

20th January 2025

Expiry Date

19th January 2026

Mr. Vikash Kumar Singh
Director-Compliance

Revision History of the document:

Revision date	Summary of changes
Jan 2024 ¹	Amendment in Technical Area – 3.1
April 2024	Revision due to A6.4 implementation
Jan 2025	Revised as per the latest organogram.

CC IPL_FM 7.9 Certificate of Competency_V7.0_17012025

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



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Vishal Bijani

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), A 6.4 AS (V1.0) ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|---|---|--|---|
| ☒ Validator | ☒ Verifier | ☐ Team Leader | ☒ Technical Expert |
| ☐ Technical Reviewer | ☐ Validator/Verifier (Trainee) | ☐ Gender Expert | ☐ Plastic Waste Expert |
| ☐ CCB Expert | ☐ Legal Expert | ☐ Financial Expert | ☐ Environmental, Health and Safety financial matters |
| ☐ SDG Expert | ☐ Expert Social aspect | ☐ Expert Environment aspect | ☐ Health Expert |
| ☒ Regional 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

20th January 2025

Expiry Date

19th January 2026

Mr. Vikash Kumar Singh
Director-Compliance

Revision History of the document:

Revision date	Summary of changes
Nov 2024 ¹	Initial Adoption
Jan 2025	Revised as per the latest organogram.

CCIPL_FM 7.9 Certificate of Competency_V7.0_17012025

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



Carbon Check (India) Private Limited

Certificate of Competency

Ms. Indumathi C

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS, A 6.4 AS/ ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|---|--|---|---|
| ☒ Validator | ☒ Verifier | ☒ Team Leader | ☒ Technical Expert |
| ☒ Technical Reviewer | ☐ Validator/Verifier (Trainee) | ☐ Gender Expert | ☒ Plastic Waste Expert |
| ☐ CCB Expert | ☐ Legal Expert | ☒ Financial Expert | ☐ Environmental, Health and Safety financial matters |
| ☒ SDG Expert | ☒ Expert Social aspect | ☒ Expert Environment aspect | ☐ Health Expert |
| ☒ Regional Expert for India and Sri Lanka | | | |

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
20th January 2025

Expiry Date
19th January 2026

Mr. Vikash Kumar Singh
Director - Compliance

Revision History of the document:

Revision date	Summary of changes
Dec 2023 ¹	Change in the template due to revision in TA and function
April 2024	Revision due to A6.4 Implementation
Jan 2025	Revised as per the latest organogram.

CCIPL_FM 7.9 Certificate of Competency_V7.0_17012025

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

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

Table 1. FARs from this verification

FAR ID	XX	Section no.		Date:
Description of CAR				
NA				
PP response				Date:
Documentation provided by the CME				
DOE assessment				Date:

Table 2. CARs from this verification

CAR ID	01	Section no.	KPI table, ER sheet	Date: 05/08/2024
Description of CAR				
End date of the previous monitoring period (MP 1) was 15/04/2023, the start date of the current MP (MP 2) is given as 20/06/2023 in the KPI table and the "Technology Days VPA 4" tab in the ER sheet. PP is requested to address this discrepancy and update the monitoring period and tech days calculated.				
PP response				Date: 21/08/2024
The start date of the current MP (MP2) has been amended to 16/04/2023. Relevant changes to technology days and emissions reductions have been made. As a result of this and CAR 04 the ERs have increased from 5,059 to 5,902 tCO ₂ e.				
Documentation provided by PP				
VVB assessment				Date: 06/09/2024
PP has updated the start date of the MP2 to 16/04/2023 to be correct with respect to the MP1 dates. Hence, CAR01 is closed.				
CAR ID	02	Section no.	A.1, E.1	Date: 05/08/2024
Description of CAR				
PP is requested to address the following findings as per the MR template v1.1:				
1. In section A.1 of the MR, PP has mentioned "first ICS was distributed in Zambia on 16th April 2021". As per the "GUIDE TO COMPLETING THE MONITORING REPORT" section, point 18 of the MR template v1.1 "All Dates must be in the following format: DD/MM/YYYY". PP is requested to use DD/MM/YYYY format throughout the MR. 2. In section E.1 of the MR, it is mentioned "Baseline emissions for baseline scenario b in year y (tCO₂e/yr)= 6671". As per the "GUIDE TO COMPLETING THE MONITORING REPORT" section, point 16 of the MR template v1.1 "Figures above one thousand shall be formatted with a comma (for example 1,000,000), and decimals will be separated by a point (for example 1.35)". PP is requested to use digit grouping throughout the MR.				
PP response				Date: 21/08/2024
Section A.1. and E.1. have been changed accordingly to DD/MM/YYYY format and to include a comma separating the thousands.				
Documentation provided by PP				
VVB assessment				Date: 06/09/2024

PP has updated the date format to DD/MM/YYYY and used digit grouping throughout the MR.

Hence, CAR02 is closed.

CAR ID	03	Section no.	D.2	Date: 05/08/2024
Description of CAR				
PP is requested to address the following findings in the section D.2:				
- For the parameter SPM_{HH}, the value applied is 100 %. In the ER sheet tab “SDG Calculation” the value is given as 86 % - For the parameter HHTS, the value applied is 99 %. In the ER sheet tab “SDG Calculation” the value is given as 86 % - For the parameter BSA/HHS, the values for money saved is not provided in the MR (Table 1 and Section D.2), PP is requested to provide ‘SDG 1 - Percentage of households reporting money savings due to a reduction in fuel costs and the average amount saved’ as mentioned in the ER sheet “SDG calculation” - For the SDG 5 the achieved value in the current MP is given as 99% in the section E.4 and in section E.5 the value is provide as 86%.				
PP is requested to provide consistent values for the monitored parameters in the MR and ER sheet.				
PP response				Date: 21/08/2024
SPM, HHTS and the relevant SDGs have been amended to reflect the correct values of 100% for SPM and 99% for HHTS. These values are calculated as the percentage of people experiencing money savings and time savings while using an ICS. The values calculated in the ER sheet included responses from individuals without an ICS – the sheet has now been updated to only included responses from individuals with an ICS and is now consistent with the values mentioned above and in the MR. The parameter for BSA/HHS in Table 1 has been updated to show SDG 1 - Percentage of households reporting money savings due to a reduction in fuel costs.				
Documentation provided by PP				
VVB assessment				Date: 06/09/2024
- The achieved values for SDG 3 is given as 86% in section E.5 of the MR and 100% in D.2, E.2 and E.4 of the MR. PP is requested to provide consistent values throughout the Habit survey records, ER sheet and MR. CAR03-01 remains open. - The achieved values for SDG 5 is given as 86% in section E.5 of the MR and 99% in D.2, E.2 and E.4 of the MR. PP is requested to provide consistent values throughout the Habit survey records, ER sheet and MR. CAR03-02 remains open. - As per the registered VPA-DD the SDG 1 impact is “Installation of ICS and Financial Savings” PP is requested to provide the achieved value for SDG 1 as per the registered VPA-DD. CAR03-03 remains open. - For SDG 8 the value provided in the KPI table, section D.2, E.4, E.5 of the MR is provided as 27. In the section D.3 the value for SDG 8 is 15. PP is requested to provide consistent value for the SDG 8. CAR03-04 is open.				
PP is requested to provide consistent values throughout the MR, ER sheet and Habit survey records for the monitored parameters and SDGs.				
PP response				Date 06/09/2024
- The values for SDG 3 have been amended to be consistent. The value for SDG 3 is 100% of households with a cookstove reported a reduction in smoke while using the ICS. - The values for SDG 5 have been amended to be consistent. The value for SDG 3 is 99% of households with a cookstove reported a reduction in time spent collecting wood. - The parameter for BSA/HHS in Table 1 has been updated to show SDG 1 - Percentage of households reporting money savings due to a reduction in fuel costs as well as SDG 1 – number of ICS distributed. - The values for SDG 8 have been amended to be consistent. The value for SDG 8 is 18 permanent employees in				

the year 2024.			
Documentation provided by PP			
VVB assessment			Date: 17/09/2024
1. PP has updated section E.5 to provide consistent values for the SDG 3 parameter throughout the MR, ER sheet and the Habit survey sheet. CAR03-01 is closed. 2. PP has updated section E.5 to provide consistent values for the SDG 5 parameter throughout the MR, ER sheet and the Habit survey sheet. CAR03-02 is closed. 3. As per the VPA-DD and the previous MR on the registry for GS11604 the SDG 1 is reported as total device distributed and monetary savings in Kwacha or USD. PP is requested to provide the "Amount Achieved" for the SDG 1 in 'Table 1' as per the registered VPA-DD. CAR03-03 remains open 4. PP has updated the MR to provide consistent value for the SDG 8 Decent Work and Economic Growth. CAR03-04 is closed.			
PP response			Date: 19/09/2024
3. Table 1 has been updated to reflect the amount of money saved due to reduction in fuel costs in Zambian Kwacha			
Documentation provided by PP			
VVB assessment			Date: 20/09/2024
PP has updated the "Amount Achieved" in the Table-1 of the MR.			
Hence, CAR03 is closed.			
CAR ID	04	Section no.	D.3
Description of CAR			
In the section D.3, the value of the parameter AACSHH in HS1 is provided 1,127. The total distribution in the VPA is 1,100.			
PP is requested to provide consistent values for the parameter AACSHH in the section D.3			
PP response			Date: 21/08/2024
According to the database during this monitoring period there were 1,098 stoves being used. Relevant changes have been made including technology days and emissions reductions to make this value consistent. As a result of this and CAR 01 the ERs have increased from 5,059 to 5,902 tCO ₂ e. The stove number is evidenced by the stove distribution databased shared with the VVB.			
Documentation provided by PP			
Distributions - VPA4 16-04-2021 to 19-Jun-2024			
VVB assessment			Date: 06/09/2024
PP has updated the MR to provide correct number of stoves distributed for the VPA and provided the distribution record. Number of stoves distributed are consistent throughout the MR, ER sheet and the Distribution record.			
Hence, CAR 04 is closed.			
CAR ID	05	Section no.	B.1.1
Description of CAR			
As per the section B.1.1 of the MR template v1.1 which states "Declare any Forward Action Requests from Design Certification (1st Monitoring Period) or previous Performance Certifications and briefly summarise how they have been addressed".			
As per the previous verification report for the MP1 16/04/2021 – 15/04/2023 (Inclusive), FAR 01 is raised on the households with damaged stoves and household that were using the higher efficient cookstoves such as Electric stove and LPG in the baseline scenario. PP is requested to include the FAR in the section B.1.1 of the MR with information on how the FAR is addressed.			
PP response			Date: 21/08/2024
This FAR and the response to it has been included in section B1.1			

Documentation provided by PP			
VVB assessment			Date: 06/09/2024
FAR from previous verification is included in the section B.1.1 of the MR. The stove mentioned in the FAR are not found in the Distribution database provided by the PP. Hence, CAR05 is closed.			
CAR ID	06	Section no.	D.2
Description of CAR			
PP is requested to provide information on the calibration of monitoring equipment used for conducting KPTs for the parameter "B _{p,y,i} ".			
PP response			Date: 21/08/2024
Moisture meters were purchased brand new for this MP and scales were calibrated before KPTs were performed. The PP has shared purchase invoices and calibration certificates with the VVB.			
Documentation provided by PP			
Certification of 3 scales_050324 Certification of 3 scales_230524 Purchase of 3 scales_180524 Purchase of moisture meters_06-03-2024			
VVB assessment			Date: 06/09/2024
PP has provided purchase record for the moisture meters and calibration records (23/05/2024) and purchase order (18/05/2024) for the 3*100kg scales and calibration record for 2*200kg and 1*50kg scale (05/03/2024). 1. PP is requested to provide purchase record for the 2*200kg and 1*50kg scale 2. PP is requested to include the information of meters and scales in the QA/QC procedure section for the parameter "B_{p,y,i}" in section D.2 of the MR. Hence, CAR06 remains open.			
PP response			Date: 06/09/2024
1. Since the 2*200kg and 1*50kg scales were correctly calibrated, purchase records are not necessary as they are deemed usable for KPTs after calibration regardless of purchase date. 2. Information regarding the moisture meters and scales has been added to section D.2. of the MR (Scales and moisture meters used for performing KPTs were newly purchased and/or calibrated before KPTs occurred.).			
Documentation provided by PP			
Certification of 3 scales_050324 Certification of 3 scales_230524 Purchase of 3 scales_180524 Purchase of moisture meters_06-03-2024			
VVB assessment			Date: 17/09/2024
1. Clarification provided for the 2*200kg and 1*50kg scale is accepted. 2. The information added in the QA/QC procedure section for the parameter "B_{p,y,i}" in section D.2 of the MR does not mention the information on the device (moisture meters and scales) used and the calibration dates. PP is requested to update the QA/QC procedure section for the parameter "B_{p,y,i}" in section D.2 of the MR. 3. PP is requested to provide manufacturer specification for the monitoring equipment (moisture meters and scales) CAR06 remains open.			
PP response			Date: 19/09/2024
2. The QA/QC procedures row of section D.2. has been updated to indicate which scales and moisture meters were newly purchased and calibrated as well as the dates. 3. The manufacturer and specifications of the scales and moisture meters have been added to the QA/QC explanation in section D.2.			

Documentation provided by PP	
VVB assessment	Date: 20/09/2024
PP has provided information on the calibration and purchase of the monitoring equipment in QA/QC procedure for the parameter “B _{p,y,i} ” in section D.2 of the MR.	
1. PP is requested to clarify the statement “The 300kg scales were newly purchased on 18/05/2024” in the above-mentioned section of the MR. 2. PP is requested to provide the technical specification document of the monitoring equipment’s mentioned in the section D.2 of the MR.	
Hence, CAR06 remains open	
PP response	Date: 20/09/2024
1. This statement has been amended: “The 100kg scales were newly purchased on 18/05/2024” 2. Documents are provided	
Documentation provided by PP	
Scale Info TASC Zam_VPA_4_Monitoring_report_MRV2_v1.4_TC	
VVB assessment	Date: 20/09/2024
PP has updated the section D.2 to provide appropriate information on calibration of monitoring equipment.	
PP has provided the manufacturer specification of monitoring equipment.	
Hence, CAR06 is closed.	

CAR ID	07	Section no.	Table 2	Date: 16/08/2024
Description of CAR				
PP has mentioned MP1 in the Table-2 section of the MR. PP is requested to provide the correct monitoring period in the in the Table-2 section of the MR.				
PP response				Date: 21/08/2024
MP1 was changed to reflect this MP (MP2) in table 2.				
Documentation provided by PP				
VVB assessment				Date: 06/09/2024
PP has updated the Table 2 to show the correct MP.				
Hence, CAR07 is closed.				

CAR ID	08	Section no.		Date: 06/09/2024
Description of CAR				
PP is requested to provide the following documents:				
1. SurveyCTO webform records of the households interviewed for habitat survey 2. SurveyCTO webform records of the households participated in the KPT 3. Enumerators training report and attendance sheet 4. POA DD and VPA DD applicable to this MR 5. Contract between manufacturer and distributor 6. Evidence for the total ICS distributed (eg: sales records, purchase orders etc.) 7. Grievance logbook pictures or videos				

8. Data collection document submitted by enumerators
9. Carbon credit ownership certificate samples
10. Employment generation records (SDG08)
11. Evidence for random sample generation (user survey and KPT)
12. Declaration on no double counting
13. Thermal efficiency lab report KIRDI
14. Awareness campaign evidences
15. End user training and follow up visit evidences

PP response

Date: 06/09/2024

The relevant documents have been attached

Documentation provided by PP

1. SurveyCTO Habit surveys – SubmissionDate
2. SurveyCTO KPTs – SubmissionDate
3. Training Register Chongwe - 20 May 2024
Training Register Katete - 20 May 2024
Training Register Lusaka - 20 May 2024
Training Register Shibuyunji - 20 May 2024
Zambia Monitoring Training - KPTs & Habit Surveys-20240520_095823-Meeting Recording
Zambia Monitoring Training
KPT & Habit Survey Walkthrough
4. GS11009_TASC PoA-DD v5_clean
GS11604_TASC Zambia VPA4-DD v1.8 Clean
5. BURN Waiver Letter
6. Distributions - All_Zambia - VPA4 (Solwezi 1k)_SurveyStartDate _Processed_01-Jan-2019_08-Sep-2024
7. VPA4 Grievance Logbook_12092024
8. zam_charcoal_mrv_kpt_printable
zam_charcoal_mrv_habit_printable
9. Device_EndUserAgreement_Zambiavpa4_148541924
Device_EndUserAgreement_Zambiavpa4_148559022
Device_EndUserAgreement_Zambiavpa4_148570845
Device_EndUserAgreement_Zambiavpa4_148575380
Device_EndUserAgreement_Zambiavpa4_148613387
Device_EndUserAgreement_Zambiavpa4_148616927
Device_EndUserAgreement_Zambiavpa4_148630659
Device_EndUserAgreement_Zambiavpa4_148643261
10. Employee Staff Movement Sheet_090724
Contracts 1-18
11. HS and KPT Sample Selection

12. No double counting VPA4 declaration_EC_Signed	
13. Jikokoa Classic Report -23-10-20	
14. KABITAKA Attendance list_07052024 CONGO ROAD Attendance list_09053024 MUSHITALA CENTRAL_BOOMGATE Attendance List	
15. Sensitization events LOCATION & ATTENDANCE_2024 Sensitization events LOCATION & ATTENDANCE_2023 VPA 4 sensitization meeting 19092023 VPA 4 sensitization meeting 20092023	
VVB assessment	Date: 17/09/2024
PP has provided all requested supporting documents.	
Hence, CAR08 is closed	

CAR ID	09	Section no.	ER sheet	Date: 06/09/2024
Description of CAR				
In the ER sheet tab 'Technology Days VPA04' tab 'J7' the formula used is "I8*(1-D13)". The cell D13 is empty and does not contain any value.				
PP is requested to update the rectify this discrepancy.				
PP response				Date: 06/09/2024
The formula in cell J7 is "I7*(1-D12)". This provides the correct value.				
Documentation provided by PP				
VVB assessment				Date: 17/09/2024
The formula in the ER sheet tab 'Technology Days VPA04' cell 'J7' to be appropriate.				
Hence, CAR09 is closed.				

CAR ID	10	Section no.	E.1, E.5	Date: 06/09/2024
Description of CAR				
PP is requested to provide consistent emission values in the following sections:				
1. In the section E.1 of the MR the 'BE_{b,y}' the value is given as 5,902 which is not consistent with the section E.4 of the MR and the ER sheet. PP is requested to provide consistent values for 'BE_{b,y}'. 2. In section E.5 of the MR the value for EX-ante emission reduction is given as '5,404' and in the ER sheet tab 'Ex-Ante' the value of ex-ante emissions reduction is 6,353. PP is requested to provide consistent values for ex-ante emission throughout the MR and the ER sheet.				
PP response				Date: 06/09/2024
1. The value for BE_{b,y} has been updated to consistently reflect the value of 7,782 tCO₂e present in the ER sheet. 2. Section E.5. has been amended to reflect the correct ex-ante value of 6,353tCO₂e.				
Documentation provided by PP				
VVB assessment				Date: 17/09/2024
1. PP has updated the Baseline emission value in the section E.1 to be consistent with section E.4 of the MR and the ER sheet. 2. PP has updated the Ex-ante emission value in the section E.5 of the MR to be consistent with the ER sheet.				
Hence, CAR10 is closed.				

Table 3. CL from this verification

CL ID	01	Section no.	B.1.1	Date: 16/08/2024
Description of CL				
As observed in the remote audit some of the stoves are damaged (still in use) (Faides Sakala, Naomi Singovwe, William Sakala, Grace Mulubila). According to the households the damage was reported to the TASC team. Some of the households have lost the serial ID sticker from the stoves.				
PP is requested to provide a clarification on how the damage reported by the households are addressed.				
PP response				Date: 21/08/2024
In order to account for the damage sustained to stoves since distribution, the PP has employed a damaged stove discount. This discount was calculated based on the number of missing or damaged stoves identified during the habit surveys for this MP and was calculated to be 10% of total stoves. This discount was applied to the technology days ($N_{p,y}$) for this MP. The damaged stove discount is explained and discussed in sections D.4. and E.1.				
Furthermore, with regards to damaged serial IDs, the PP has implemented sensitization events throughout our POA which informs the importance of the barcodes and maintaining the barcode as well as the stove.				
Documentation provided by PP				
VVB assessment				Date: 06/09/2024
PP has employed damaged stove discount in the calculation of technology days and mentioned the information in section E.1 of the MR and the ER sheet tab 'Technology Days VPA 4'.				
PP is requested to provide evidence for the sensitization carried out for the stove and barcode maintenance.				
Hence, CL01 remains open.				
PP response				Date: 06/09/2024
Evidence of sensitization events has been provided.				
Documentation provided by PP				
VVB assessment				Date: 17/09/2024
PP has provided the evidence (attendance and photographs) for the sensitization carried out.				
Hence, CL01 is closed.				

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	2.5630 tonnes charcoal
Purpose of data	Calculation of the baseline scenario
Source	Baseline KPTs

Relevant SDG Indicator	SDG 13, Climate action
Parameter	EF_{b,i,CO_2}
Data unit	tCO ₂ /tfuel
Default values used	Fuel: 3.304 tCO ₂ /tfuel
Purpose of data	Calculation of baseline scenario
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	$EF_{b,i,nonCO_2}$
Data unit	tCO ₂ /tfuel
Default values used	Fuel: 0.173 tCO ₂ /tfuel
Purpose of data	Calculation of baseline scenario
Source	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5 – 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 ₂ O and CH ₄ .

Relevant SDG Indicator	SDG 13, Climate action
Parameter	EF_{p,i,CO_2}
Data unit	tCO ₂ /tfuel
Default values used	Fuel: 3.304 tCO ₂ /tfuel
Purpose of data	Calculation of Baseline scenario
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	$EF_{p,i,nonCO_2}$

Data unit	tCO ₂ /tfuel
Default values used	Fuel: 0.173 tCO ₂ /tfuel
Purpose of data	Calculation of the baseline scenario
Source	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5 – 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 ₂ O and CH ₄ .

Relevant SDG Indicator	SDG 13, Climate Action
Parameter	NCV _{b,i}
Data unit	TJ/tonne
Default values used	Charcoal: 0.0295 TJ/ tonnes
Purpose of data	Calculation of the baseline scenario
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	Charcoal: 0.0295 TJ/ tonnes
Purpose of data	Calculation of the baseline scenario
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	f _{NRB,b,i,y}
Data unit	Fraction of non- renewable biomass used in the baseline
Default values used	Fuel: 0.91
Purpose of data	Calculation of the baseline scenario
Source	C4 EcoSolutions study; dated 11/03/2022 and fNRB calculation sheet/16/

Annex 2: Assessment of data and parameters monitored

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 13
Data / Parameter: (as in monitoring plan of VPA-DD):	B _{p,y,i}

Unit	Tonnes per household per annum
Measuring frequency/Time Interval:	Updated every two years
Reported value	0.6190
Verified Source of Data	Field Performance Tests (FPTs) Based on the assessment of the ex-ante calculation provided in the ER sheet tab “Ex-ante”, the relationship between the baseline and project fuel consumption with reference to project stoves thermal efficiency is based on the result of ‘bKPT (Bold,I)’ and ‘bKPT (Bold,I) adjusted based on the comparison of thermal efficiency of the Project stove (based on the thermal efficiency test provided as supporting document) with the baseline stove (methodology default /B02/).’ The ex-ante value for the parameter $B_{p,y,i}$ is 0.4773 tonnes and the ex-post values achieved for the parameter $B_{p,y,i}$ in the is 0.6190 tonnes. The calculation provided by the PP in the ER sheet /02/ and KPT sheet /04/ is deemed to be appropriate and the same was confirmed through the KPT survey conducted by the verification team as part of the remote audit. VVB, based on sampling surveyed the households took part in KPT survey, from the survey, it has been confirmed that KPT has been conducted as per the procedures provided in section D.2 and D.4 of MR. The KPT datasheet/04/ has also been reviewed and confirms that the KPT calculations are done appropriately. The calculation including the exclusion of outlier threshold is found to be consistent between baseline and project KPT.
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 VPA-DD:	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
VVB Assessment	The parameter $B_{p,y,i}$ is verified from the ER sheet /02/, KPT survey records /09/ and the MR /01/ the values are consistent throughout.

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 VPA-DD):	$U_{p,y}$
Unit	Fraction (or %)
Measuring frequency/Time Interval:	Annual
Reported value	79%
Verified Source of Data	Annual usage survey VVB has conducted household surveys to verify the value provided by PP. VVB observed that all the households visited is in possession of project ICS and has been in use. However, PD based on Good practice usage level has only claimed for 79% of usage. VVB confirms that the requirements provided in requirements and guidelines: usage rate monitoring version 2.0 has been followed. Checklist for the usage rate assessment has been added in annex 3 of this report
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 VPA-DD:	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
VVB Assessment	According to the habit survey /10/ the usage rate is 100% but the value taken is 90% implementing ‘Good Practice’, the value is conservative and is consistent with the ER sheet /02/ and in the MR /01/.

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:	$N_{p,y}$

(as in monitoring plan of VPA-DD):	
Unit	Number
Measuring frequency/Time Interval:	Continuous
Reported value	1,098
Verified Source of Data	Monitoring Database The value provided in MR has been cross checked with the database/04/ provided by PP and is found to be consistent
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 VPA-DD:	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
VVB Assessment	According to the VPA distribution record/04/ the number of the ICS distributed in the VPA is 1,100, which is consistent with the MR/01/ and the ER sheet/02/.

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 VPA-DD):	LE _{p,y}
Unit	Tonnes of CO2 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, VVB during the interview with the end users confirmed that no leakage is applicable during the current monitoring period.
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 VPA-DD:	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
VVB Assessment	Leakage emissions in the project activity are considered as 0, justifications are provided in the section E.3 of the MR /01/ which is appropriate.

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 VPA-DD):	BSA/ HHS
Unit	Number
Measuring frequency/Time Interval:	Annually
Reported value	1,098 ICS in use
Verified Source of Data	1. Monitoring Database ICS distribution records 2. Ex- post Monitoring Survey Records The value provided in MR has been cross checked with the database/04/ provided by PP and is found to be consistent
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 VPA-DD:	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?	
VVB Assessment	According to the VPA distribution record/04/ the number of the ICS distributed in the VPA is 1,100, which is consistent with the MR/02/ and the ER sheet/02/.

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 VPA-DD):	SPM _{HH}
Unit	%
Measuring frequency/Time Interval:	Annually
Reported value	100%
Verified Source of Data	Ex- post Monitoring Survey Records VVB has conducted verification surveys based on random sampling following the guidelines of Sampling and surveys for CDM project activities and programmes of activities/B05/ to verify the value provided by PP. It has been found that the value provided by PP is consistent with the value observed by VVB during verification survey.
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 VPA-DD:	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
VVB Assessment	From the habit survey records /10/ the value of SPM _{HH} is observed as 99% for MP1 and 100% for MP2, and are consistent in the MR /01/.

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 VPA-DD):	HHTS
Unit	%
Measuring frequency/Time Interval:	Annual
Reported value	99%
Verified Source of Data	Ex- post Monitoring Survey Records VVB has conducted verification surveys based on random sampling following the guidelines of Sampling and surveys for CDM project activities and programmes of activities/B05/ to verify the value provided by PP. It has been found that the value provided by PP is consistent with the value observed by VVB during verification survey.
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 VPA-DD:	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
VVB Assessment	Based on the habit survey records /10/ the value of HHTS is verified and is consistent in the MR /01/ as well.

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 VPA-DD):	AACS _{HH}
Unit	Number
Measuring frequency/Time Interval:	Continuous
Reported value	1,098 ICS
Verified Source of Data	ICS Monitoring Database

	The value provided in MR has been cross checked with the database/04/ provided by PP and is found to be consistent
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 VPA-DD:	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
VVB Assessment	According to the VPA distribution record/04/ the number of the ICS distributed in the VPA is 1,100, which is consistent with the MR/01/ and the ER sheet/02/.

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 VPA-DD):	QE IG
Unit	Number
Measuring frequency/Time Interval:	Annually
Reported value	18
Verified Source of Data	Employment Records The employment contract/12/ of all the 14 employees has been provided to VVB by PP. The same has been cross checked to verify the value.
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 VPA-DD:	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
VVB Assessment	As per the employment records/12/ provided, 14 people were employed for the VPA.

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 VPA-DD):	B _{y,savings}
Unit	Tonnes/ year
Measuring frequency/Time Interval:	Annually/ biennially
Reported value	1.9439 tonnes
Verified Source of Data	Ex- post Monitoring Survey Records The value has been obtained by subtracting parameter B _{p,y,i} from B _{old,i} . VVB confirmed that the value provided in ER sheet/02/ is appropriate.
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 VPA-DD:	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

VVB Assessment	The values for $B_{y,savings}$ is 1.7857 tonnes in the MR/01/, and are found to be consistent with the Monitoring survey /10/.
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Appendix 5. 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 TPDDTEC 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 VPA-DD/VPA-DD?	Yes, please refer section B.7.1 of VPA DD/B03/
		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
		c. In case the project/PoA applies a different level of usage as compared to the registered VPA-DD, have the monitoring requirements from the levels below been followed?	VPA DD has specified the level of usage as Good practice, which is mentioned in the section B.7.1 of VPA DD/B03/. The MR has also followed Mandatory usage level which is explained in section D.2 and D.4 of MR/01-b/ which is conservative compared to the usage rate stated in the VPA-DD. Thus, acceptable to the verification team.
		a. Has the project/PoA defined project technology “use” and “non-use” (Step 1) and documented the criteria applied for defining them in the VPA-DD(s)?	Use and Non-use has been defined in the section B.7.1 of VPA DD/B03/. The same has been applied in the current monitoring period for determining the usage rate value.
		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.2 of the MR/01-b/ and is consistent with the definition provided in the section B.7.1 of registered VPA DD/B03/
		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 excel spreadsheet/02/. VVB Confirms that the usage rate has been calculated based on the user identified as per the criteria defined.
		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-b/ and detailed assessment has been added in section E.5.3 of this report ii. yes, the questionnaires 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/13/ 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 habit survey/11/
		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 /11/ 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/05/09/10/11/. 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, awareness campaign?	Yes, the evidence/05/09/10/11/ have been provide to VVB and verified.
		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/.
	b. Has the project developer appropriately applied the weighted-average usage rate quantification approach to each monitored project technology age group?		Yes,