



**Verified Carbon
Standard**

INSTALLATION OF HIGH EFFICIENCY WOOD BURNING COOKSTOVES IN ZIMBABWE

Document Prepared By



Certification Pvt. Ltd.

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Summary:

VKU Certification Pvt. Ltd. (hereafter referred as VKU) was commissioned by C-Quest Capital SGS Stoves Private Limited (hereafter referred as CQC) to verify the greenhouse gas emission reductions reported for the grouped project activity “Installation of high efficiency wood burning cookstoves in Zimbabwe (VCS 2341-MP04)”, covering monitoring period from 16-September-2022 to 31-March-2023 (both dates included) under fixed crediting period from 29-November-2020 to 28-November-2030 (both dates included) with regard to the relevant requirements for VCS activities.

The purpose of the verification is to have an independent review ex-post determination of the monitored emission reductions in GHG emissions and verify that monitoring methodology was implemented according to monitoring plan and monitoring data, used to confirm the emission reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner.

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS PD/14/.
- To assess the project’s compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any instances of double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculations.
- To verify that 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 objective of the verification is to have an independent review ex-post determination of the monitored reductions in GHG emissions. Verification was conducted using VKU’s procedures in line with the requirements specified in the VCS program guide version 4.3/3/, VCS standard Version 4.4/4/, VCS validation and verification manual version 3.2/22/, CDM M&P, and CDM Validation & Verification Standard/25/, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques. The verification consisted of desk review, remote audit and the resolution of outstanding issues and the issuance of the final verification report and certification. This comprehensive verification aimed to ensure that the reported emission reductions are thorough and precise, aligning with the relevant VCS requirements, thus enabling the project to obtain certification.

The verification team ensured that the reported emission reductions are complete and accurate in accordance with applicable VCS requirements in order to be certified therefore the verification team has detected no further uncertainties

The GHG emission reductions were calculated on the basis of the approved methodology VMR0006 'Methodology for Installation of High Efficiency Firewood Cookstoves' (version 1.1)/6/ and the monitoring plan included in the project description, Version 2.1 of 22-February-2022.

VKU followed the rule-based approach to perform this verification. During this verification, 03 Corrective Action Requests (CAR) and 05 Clarification Requests (CL) and 00 Forward Action Requests (FARs) were identified related to operation, monitoring and GHG emission reduction calculation of the VCS project activity in relation to all relevant VCS requirements for the project activity and the applied baseline and monitoring methodology, and these CARs and CLs are successfully closed after necessary corrections/clarifications by the client. The same has been discussed in [Appendix C](#) of this verification report.

In conclusion, it is VKU's opinion that the grouped project activity "Installation of high efficiency wood burning cookstoves in Zimbabwe" VCS project ID 2341, meets all relevant requirements for VCS standard and guidelines and correctly applies the baseline and monitoring methodology VMR0006 "Methodology for Installation of High Efficiency Firewood Cookstoves" version 1.1/6/.

The monitoring system is in place and the emission reductions are calculated without material misstatement. Hence, VKU is able to certify that the emission reductions from the project during the fourth monitoring period from 16-September-2022 to 31-March-2023 (both dates included) under fixed crediting period from 29-November-2020 to 28-November-2030 (both dates included) amounts to 266,880 tCO₂e.

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1 INTRODUCTION

1.1 Objective

C-Quest Capital SGS Stoves Private Limited (hereafter CQC) commissioned VKU Certification (hereafter VKU) to carry out the fourth verification of the project “Installation of high efficiency wood burning cookstoves in Zimbabwe” (VCS 2341) for the monitoring period from 16-September-2022 to 31-March-2023 (both dates included).

This report summarizes the findings of the verification of the project, performed on the basis of VCS Requirements and UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. VKU adhered to its customary verification process, which is in accordance with Verra Standard version 4.4/4/ for verification. This approach guarantees the uniformity of project operations, monitoring, and reporting.

The objective of the verification is to have an independent evaluation of grouped project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.3/3/, VCS standard version 4.4/4/ and GHG program applied, on the basis of the registered VCS PD/14/ and applied methodology/6/.

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

- The grouped project activity has been implemented and operating as per the project description /14/(PD) and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report/1/ and other supporting documents are complete;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.

To confirm that the monitoring system is implemented and fully functional to generate Verified Carbon Units (VCUs) without any instances of double counting/19/, and to establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation. This aims to establish the reliability and integrity of the data.

1.2 Scope and Criteria

The verification scope is:

- To verify that the project is implemented as described in the registered VCS PD/14/.
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To verify that 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.

The project is assessed against the requirements of VCS standard version 4.4/4/, VCS program guide version 4.3/3/, VCS validation and verification manual version 3.2/22/ and related rules and guidance. VKU has, based on the recommendations in the latest version of CDM Validation and Verification Standard version 9.0/25/, VCS validation and verification manual version 3.2/22/ and employed a rule-based approach (as criteria) in the verification, focusing on the identification of significant reporting rules and the reliability of project monitoring.

The method and criteria used for verification consisted of the following phases:

- Desk review of VCS Project Description, registered under version 02.1 on 22-February-2022/14/and other supporting documents listed in Table-03;
- Remote interviews & Focussed Group Discussions with End-Users, Stakeholders & PP representatives involved in project's implementation/21//30//37/;
- Resolution of outstanding issues and Completeness check and issuance of final verification report and applicable VCS Verification Deed of Representation.

Verification is not meant to provide any consultancy to the project proponents. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

1.3 Level of Assurance

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent VKU's procedure, with a **Reasonable level of assurance** with respect to material errors, omissions, and misrepresentations. The verification report is based on the Monitoring report /1/, registered VCS PD /14/, supporting documents /7//8//9//15//18//19//20//21/ made available to the verification team and information collected through performing interviews remotely.

The technical review was performed by a technical reviewer(s) qualified in accordance with VKU's qualification procedure. The verification team and the technical reviewers consist of the following personnel:

Table 1.0: The Assessment Team members are as follows:

Role/Qualification	Last Name	Middle Name	First Name
VCS Team Leader & Technical Expert TA 3.1 (Cookstove)	Ahirwar	Kumar	Vivek
Validator/ Verifier	Sharma	NA	Deepali
Local Expert (Republic of Zimbabwe)	Chuma	NA	Munatsi

Table 1.1: The technical reviewer consists of the following personnel:

Role/Qualification	Last Name	Middle Name	First Name
Technical Reviewer & Technical Expert TA 3.1 (Cookstove)	Srivastava	Kumar	Abhishek

The threshold for quantitative materiality with respect to the aggregate of errors, omissions and misrepresentations, relative to the total reported GHG emission reductions and/or removals was limited to one percent as the project is a large project as per the registered PD/14/, as required by section 4.1.8 of the VCS Standard version 4.4/4/.

1.4 Summary Description of the Project

The grouped project has implemented distribution of 191,974 improved cook stoves (ICS) in provinces Mashonaland East, Mashonaland Central, Mashonaland West and Harare of Republic

of Zimbabwe until current monitoring period replacing conventional open fire cookstoves (three stone fire). The proportion of operational stoves is 172,777 which was arrived by multiplying the percentage of operational stoves with the total number of stoves. The baseline stoves are conventional system with no improved combustion air supply or flue gas ventilation system as verified from remote assessment and interview/30/. The project stoves are having better efficiency compared to baseline cooking system i.e., open fire and therefore results in saving firewood compared to baseline scenario. Each project ICS included in the grouped project activity with an end user agreement executed between end user and PP/7/. The CQC has agreement for communication to VCS and CQC is acting as entity responsible for communication with VERRA. The project proponent for the grouped project activity which is C-Quest Capital SGS Stoves Private Limited, owns the rights to VCUs.

The ICS distributed in the group project activity is a TLC-CQC Rocket stove, designed by Total Land Care (TLC), an international NGO, the design is supported and certified by Aprovecho research centre /8/. Under this project two improved cookstoves distributed in the households as per the requirement of the stove users in Zimbabwe with per-stove efficiency of 34.5% which is 32.43% for vintage 1, 32.11% for vintage 2 and 31.78% for vintage 3 of current monitoring period which is calculated as per the equation 5 of the approved methodology/6/. Each ICS has a life span of 10 years as confirmed from stove manufacturer specification/9/.

TLC cookstoves manufactured under the grouped project activity match the fixed design specification with the TLC Brochure/9/. This was achieved by using brick molds of specified dimensions to make bricks used for stove construction locally. The same assessment team from VKU conducted onsite audit of this project activity in the previous monitoring period (3rd MP), hence, VVB confirmed the same during the previous Onsite audit/37/.

This ensured, that each stove that is built at individual end user household measures exactly same as the dimensions specified by the manufacturer. Post construction, training was provided to end users on use, care, and upkeep of these stoves. PP conducted spot audits on monthly basis and surveillance of the stoves distributed under the grouped project activity to ensure their proper functioning throughout the project lifetime. This along with spot audits and post installation maintenance services, ensure that the project stoves continue to work at efficiencies as specified by the manufacturer/9/. The same was confirmed by the assessment team during interviews with the concerned personnel/30/.

The project's fixed crediting period is from 29-November-2020 to 28-November-2030 (both dates included). For the current monitoring period from 16-September-2022 to 31-March-2023 (both dates included) 191,974 ICSs distributed and 172,777 ICSs operational results in overall reduction of 266,880 tCO₂e emission reductions/2/.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide Version 4.3/3/, VCS standard version 4.4/4/. The GHG emission reductions are on the basis of the approved Baseline and monitoring methodology VMR0006, version 1.1/6/.

The verification consisted of the following phases:

1. Planning: The assessment team plans the GHG-programme site visit and starts with a desk review.
2. Audit and Sampling Plan: An audit plan is prepared, including all sub-elements required for an integrated verification process aligned with the contract, scope, objectives, level of assurance, and materiality.
3. Evidence Gathering & Risk Assessment: Based on strategic analysis, the team determines evidence gathering activities, preparing a plan to collect sufficient and appropriate evidence for each GHG-related activity characteristic, using a risk-based approach.
4. Client Confirmation: The site visit audit plan is sent to the client for review and confirmation.
5. Document Review: Relevant documents, such as the verification report, monitoring plan, methodology, VCS PD, and QA/QC procedures, are thoroughly reviewed.
6. On-Site Assessment: This includes interviews and evaluation of the actual project scenario.
7. Resolution of Discrepancies: Any non-conformities identified during the assessment are addressed and resolved.
8. Independent Review: A technical reviewer provides an independent assessment.
9. Final Verification: After completeness checks, the verification report and certification are issued.

The following sections outline each step in more detail.

2.2 Document Review

During the document review, VKU has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of the monitoring report (MR) version 1 of 21-April-2023, MR version 1.1 of 26-May-2023 and MR version 1.2 of 19-July-2023, MR version 1.3 of 09-October-2023, version 02 dated 20-November- 2023 and version 2.1 dated 24-Augusut-2024/1/, the emission reduction (ER)

calculations spreadsheet version 1 dated 17-April-2023, version 1.1 of 19-July-2023 and version 1.2 of 24-August-2024 received from the PP /2/ were assessed as part of the verification. In addition, the registered VCS Project Document (VCS-PD) /14/ in particular the baseline estimations and the monitoring plan for the project was reviewed.

As per section 3.25 and clause 3.25.3 of the VCS Standard version 4.4/4/ it is an obligation for the project proponent to make available to the validation/verification body the required supporting documents and data needed to support statements and data as documented in the monitoring report. After review of the documents listed below, assessment team confirms the requirements have been met.

Table 2: Control of Documents referred during the Assessment for the 4th Verification of VCS 2341

/1/	CQC: VCS monitoring report for “Installation of high efficiency wood burning cookstoves in Zimbabwe”, version 1 of 21-April-2023, MR version 1.1 of 26-May-2023, MR version 1.2 of 19-July-2023, MR version 1.3 of 09-October-2023, version 02 dated 20-November- 2023 and version 2.1 dated 24-August-2024
/2/	CQC: Emission Reduction Calculation spreadsheet for “Installation of high efficiency wood burning cookstoves in Zimbabwe”, version 1 of 17-April-2023, version 1.1 of 19-July-2023 and version 1.2 of 24-August-2024
/3/	VCS Program Guide, version 4.3 of 17-January-2023
/4/	VCS Standard, version 4.4 of 17-January-2023
/5/	VCS: Monitoring report Template VCS Version 4.2
/6/	VCS: Link- VMR0006-Methodology for Installation of High Efficiency Firewood Cookstoves v 1.1
/7/	CQC: Sample copies of end user agreement between PP and end user
/8/	Result of performance test of ICS as per WBT by Aprovecho Research Center, Test report dated October 2015
/9/	Manufacturer’s specification: TLC Brochure - Declaration of ICS life and Efficiency
/10/	UNFCCC: Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities, Ver. 4.0
/11/	UNFCCC: Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 09.0
/12/	Carbon Check: Validation report “Installation of high efficiency wood burning cookstoves in Zimbabwe” version 04 of 10-May-2022

/13/	VKU Certification: Verification report “Installation of high efficiency wood burning cookstoves in Zimbabwe” version 1.1 of 28-March-2023
/14/	C-Quest Capital Stoves Asia Limited: Registered PD for the project ‘Installation of high efficiency wood burning cookstoves in Zimbabwe’ Version 2.1 of 22-February-2022
/15/	CQC: Sample User Survey Form Sample User survey photo taken during survey Sampling _Survey sheet_2341_Zimbabwe MP3 Attendance sheet and presentation for data collection training during survey
/16/	VERRA: https://registry.verra.org/app/projectDetail/VCS/2341
/17/	CQC: Project installation database
/18/	CQC: Grievance/Repair/Maintenance- Training records
/19/	CQC: Declaration to avoid double counting, non-inclusion of projects in other standards
/20/	CQC: Monitoring Survey Report (14-November-2022 to 24-November-2022)
/21/	Remote Audit Photographs and attendance sheet of remote audit conducted on- 22-May-2023
/22/	Validation and verification manual version 3.2 dated 19-October-2016
/23/	UNFCCC: Project search: https://cdm.unfccc.int/Projects/projsearch.html
/24/	Gold Standard Foundation: https://registry.goldstandard.org/projects?q=&page=1
/25/	CDM Validation & Verification Standard version 09.0 dated 09-September-2021
/26/	VCS Program Definitions version 4.3 dated 21-December-2022
/27/	https://www.ipccnggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch04_Forest%20Land.pdf
/28/	<u>Tool 30 v3.0 - Calculation of the fraction of non-renewable biomass</u>
/29/	GPS map camera (GPS App)
/30/	Interviews conducted during remote assessment on 22-May-2023
/31/	Sampling and calculation sheet of Monitoring Period 2 (30-March-2022 to 30-April-2022)

	Sampling and calculation sheet of Monitoring Period 3 (14-November-2022 to 24-November-2022)
/33/	Sample Sales Invoice
/34/	VKU's Internal Procedure on Sampling Method & Guidance: VKU.F74A.Sampling Plan Method and Guidance
/35/	<u>Stove Manufacturing Guide for easy maintenance and contact number of Implementor/PP</u>
/36/	VKU.F56W.Risk Assessment_VKU.VER.117.23_VCS_2341
/37/	Focussed Group Discussion conducted during remote audit by assessment team on 22-May-2023
/38/	CQC: Public Notice for Scope 3 Emissions declared on C-Quest Capital Official website for VCS 2341
/39/	CQC: The screenshots of the emails sent to stove manufacturers to avoid double claiming of Scope 3 Emissions under this grouped project.
/40/	KML File depicting the project boundary of project implemented site: Republic of Zimbabwe
/41/	Previous onsite visit conducted by VKU Certification from 13-February to 16-February-2023
/42/	Verra s6.1 OPERATIONS 2341 Zimbabwe-MP1- Data
/43/	VCS 2341 MP04 N _{yij} Precision_Data
/44/	Privileged and Confidential – Stove Champion Data
/45/	2341 MP01 B _{ynew} & N _{yij} Precision_24082024

2.3 Interviews

The key personnel interviewed during the opening meeting and closing meeting session of the remote audit, and the main topics of the interviews are summarized in the table below:

Table 3: Details of Personal Interview & /Focussed Group Discussion with Technical Team

SL.	Date	Name and Role	Organization	Topic
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1	22-May-2023	Akhilesh Josh	CQC	Description of the grouped project activity, ownership, avoidance of double counting,
2	22-May-2023	Sanjith Kakkat	CQC	Emission reductions calculations
3	22-May-2023	Maureen Tsodzo	CQC – Ground Team	Monitoring plan and monitoring arrangements
4	22-May-2023	Wimbiso Simbi	CQC – Ground Team	Data recording, QA/QC procedures.
5	22-May-2023	Blessing Gweshengwe	CQC – Ground Team	ICS operational status, commissioning details, project investment etc.
6	22-May-2023	Jabulani Matore	CQC – CSAT-Zimbabwe	Implementation Status, Training to maintain cookstove, Spot-checking mechanism, Documentation, Benefits of the project, Social and environmental impacts
7	22-May-2023	Samson Kawareware	CQC – Ground Team	

Table 4: Details of Personnel Interview/Focussed Group Discussion with Stakeholders

SL.	Date	Name and Role	Topic
1	22-May-2023	Blandina	Description of the grouped project activity, its monitoring plan and procedure of cookstove distribution, monitoring survey
2	22-May-2023	Tashinga Kavumbura	Do they receive their salary on time or not and whether the salary given meets the minimum wage requirement of the country.

It is to note that this verification is a repeat verification as VKU Certification also performed the previous verification for the 3rd Monitoring Period (01-March-2022 to 15-September-2022).

Hence, for this particular verification, the end users interviewed during the previous monitoring period are applicable and have been notified in the table below. It is also to note that in this particular monitoring period, no ICS distribution was carried out. So, VKU assessment team concludes that end-users interviewed during the previous monitoring period are still applicable.

Table 5: The end users interviewed (during previous verification) are mentioned in the table below. Each end-user household was installed with 2 stoves each.

S. No.	Date	Name and Stove ID	Topic
1.	13-February-2023 to 16-February-2023	Margaret Ropi (Stove 1 ID CQCVZW0207854, Stove 2 ID CQCVZW0208659)	- On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) - Check the baseline scenario (cooking practice prior to the project stove installation, if any)
2.	13-February-2023 to 16-February-2023	Rwisai Muzira (Stove 1 ID CQCVZW0211101, Stove 2 ID CQCVZW0211102)	- On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) - Check the baseline scenario (cooking practice prior to the project stove installation, if any)
3.	13-February-2023 to 16-February-2023	Joice Ndaizivei Munyanyi (Stove 1 ID CQCVZW0048782, Stove 2 ID CQCVZW0048799)	- On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) - Check the baseline scenario (cooking practice prior to the project stove installation, if any)
4.	13-February-2023 to 16-February-2023	Susan Kumire (Stove 1 ID CQCVZW0264220, Stove 2 ID CQCVZW0264221)	On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$)

			Check the baseline scenario (cooking practice prior to the project stove installation, if any)
5.	13-February-2023 to 16-February-2023	Keresenzia Nyamutowa (Stove 1 ID CQCVZW0213196, Stove 2 ID CQCVZW0213197)	- On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) - Check the baseline scenario (cooking practice prior to the project stove installation, if any)
6.	13-February-2023 to 16-February-2023	Nyarai Tanira (Stove 1 ID CQCVZW0220056, Stove 2 ID CQCVZW0220179)	- On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) - Check the baseline scenario (cooking practice prior to the project stove installation, if any)
7.	13-February-2023 to 16-February-2023	Nyarayi Kadamuto (Stove 1 ID CQCVZW0247528, Stove 2 ID CQCVZW0247998)	- On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) - Check the baseline scenario (cooking practice prior to the project stove installation, if any)
8.	13-February-2023 to 16-February-2023	Gladys Kapuka (Stove 1 ID CQCVZW0151254, Stove 2 ID CQCVZW0151276)	- On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) - Check the baseline scenario (cooking practice prior to the project stove installation, if any)

			practice prior to the project stove installation, if any)
9.	13-February-2023 to 16-February-2023	Tryness Yona (Stove 1 ID CQCVZW0122225, Stove 2 ID CQCVZW0122226)	- On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) - Check the baseline scenario (cooking practice prior to the project stove installation, if any)

Apart from the monitoring survey, VVB has also interviewed the HH/end user and confirmed regarding the baseline cookstove (i.e, Three stone fire) used prior to the implementation of the project stove. Furthermore, through document review and end user agreement signed by the household/7/. Verification team could verify that all new instances replace baseline cookstoves that comply with the requirements to use efficiency of at least 25% or above as per the manufacturer's specification in the applied methodology/6/

2.4 Site Visits

On site visit exclusion justification:

For the project activity titled "Installation of high efficiency wood burning cookstoves in Zimbabwe", assessment team as per their professional judgement, decided to conduct a remote audit. VVB has informed VERRA on the commencement of VCS verification process as required by the remote site visit.

The project activity is the distribution and installation of the fuel-efficient improved cookstoves (ICS) in Zimbabwe. The previous monitoring survey was conducted between 14-November-2022 to 24-November-2022 (both dates included) during MP 3 and since then no distribution/implementation has been done and it fulfils the monitoring requirement as stated in the applied methodology/6/. However, VKU's same assessment team conducted onsite visit during the third monitoring period in the month of February 2023 which was near to the end of fourth monitoring period (16-September-2022 to 31-March-2023 (both dates included)). During the 4th monitoring period remote interviews with PP was conducted, and no new information has been identified. Thus, VVB decided not to conduct the onsite visit for fourth monitoring period and notified VERRA for the remote audit through Notice of Validation/Verification Services (NOVS) form however VVB has ensured that a reasonable level of assurance was maintained with following:

VVB has carried out a strategic risk analysis that includes a plan for risk mitigation and information on the steps taken to address any new risks.

Identifying the sampling, verification, and evidence-gathering plan and conducting a strategic risk analysis:

The following verification procedure will be used by VKU:

1. A review of potential conflicts of interest during the contract review;
2. At the time of contract review, the audit team was chosen to include a local expert;
3. Development of the remote audit and sampling plan, evidence gathering plan and activities, and strategic analysis plan;
4. A desk assessment of VCS needs and preparation of list of documents required for verification;
5. Follow-up conversations with the client;
6. Creation of the final verification report

The assessment process makes use of to comprehend the:

1. VCS PD and associated VCS specifications
2. Identify the baseline scenario,
3. Implementation of the VCS project,
4. Develop a monitoring strategy,
5. Monitoring of data and parameters,
6. Application of any sample plans,
7. Verification of data/evidence collection and management, etc.
8. Evidence accessibility and a grievance resolution process
9. Ongoing communication with the stakeholders

Development of the Verification/Sampling Plan:

The audit team has formally documented its verification/ sampling plan as well as determined the evidence-sampling plan. The verification plan is developed based on key elements of the verification process as per the criteria of engagement. The plan identifies and addresses the following:

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

Remote interviews:

It also gives a general overview of the verification procedure and the intended project deliverables. This verification plan also contains a sampling strategy that will be used to assess all project components in regions where there is a high risk of error or non-conformance.

Table 6: Step 1- Identification of Materiality threshold

Check the relevant box against applicable threshold level	Threshold as per Section 4.1.8 of VCS Standard v4.4/4/	Related to
☒	1 %	Materiality threshold was fixed at 1% as per Section 4.1.8 of VCS Standard v4.4 by the assessment team as the project is a large project as per registered VCS PD/4/. Quantitative materiality, as per reporting standards, dictates that the threshold for materiality concerning the aggregate of errors, omissions, and misrepresentations, either individually or in combination, for any reported value in relation to total reported GHG emission reductions and/or removals assets, should not exceed one percent. In other words, discrepancies below this one percent threshold are considered immaterial and do not significantly impact the overall reporting accuracy. The verification of the stated materiality

		threshold is conducted through the PP's sampling survey (referenced as /22/) and the acceptance sampling performed by the assessment team. These assessments revealed that the proportion of non-working stoves observed was lower than anticipated, leading to a reduction in uncertainty. Based on these findings, the reported results were accepted as valid and in compliance with the established materiality criteria.
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Table 7: Step 2- Identification of risks, their level and assessment

S.No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the potential risk		Assessment of the records/information/interview with personnel to check controls/ mitigation measures
		Risk level	Potential actions causing risk	
1.	Monitoring parameter	High	Monitoring not done as per the registered PD	The risk was mitigated by reviewing the claims in the VCS PD, Monitoring Plan and its assessment based on VCS requirements. The plausibility of the related monitoring parameter can be further cross-checked with the project specific evidence, related to the host country/region and interviews with the related stakeholders (end users/beneficiaries). Remote Interviews conducted by Verification team with Promoters/30/ also confirmed the monitoring procedures were in line with the registered monitoring plan/14/.
2.	Project design: Information on project design	High	Project design incorrectly described thus leading to incorrect	The risk was mitigated by reviewing the claims in the VCS PD/14/and its assessment based on VCS requirements. The

	without adequate controls related to data, evidences (project/sector related)		delineation of the baseline scenario, causal change, threats to the project	background documents including monitoring survey report/15/ (such as those related country specific fNRB study) shall be cross-checked with the project specific evidence, related to the host country/region and interviews/30/ with the related stakeholders. Leakage is considered as default 0.95 in accordance with methodology/6/.
4.	Accuracy of the monitoring survey	Medium	Inadequately delineated monitoring plan may lead non-compliance of the VCS principle	The risk due to accuracy of the monitoring plan will be ensured by reviewing the VCS PD/14/, VCS requirements, sampling tool applied and ensuring feasibility/appropriateness of the monitoring plan by means of remote interviews with the PP, their associates and the end users.
5.	Competence of personnel involved in conducting monitoring like surveys	Medium	Interview of the personnel involved and check the training records conducting such monitoring.	The risk was mitigated by reviewing the training records/18/ of the personnel involved in the conducting such surveys and by following the monitoring responsibilities. The training records will be reviewed which will also be confirmed during the remote interviews/30/.

Sampling Plan:

Where, due to the number of project activity instances, it is unreasonable to undertake an individual assessment of each initial or new instance, the validation/verification body shall document and explain the sampling methods employed for the validation of such instances. Such sampling methods shall be statistically sound. The number of instances included in the project, eligible for monitoring and generation of VCUs shall be proportional to the percentage of sampled instances found to be in compliance by the validation/verification body.

☒	No sampling approach has been used by the VVB to verify the project's compliance with VCS requirements.
☐	A sampling approach has been applied by the VVB to verify the project's compliance with VCS requirements for the aspects derived in step 2 above. The statistical approach of sample size (i.e., 09) calculation is provided below.

Based on its professional judgement and observation during the prior MP 3 acceptance sampling and remote interviews during the fourth monitoring period, the verification team arrived at its judgement and conclusions. The assessment team concluded that a site visit to the project activity is not required under Section 4.1.9 of VCS Standard v4.4/4/, assessment team identified the same on the basis of the independent risk assessment/38/ conducted as a part of pre-site activities. The risk assessment identified the risk of a material misstatement or nonconformity with the audit criteria. The rationale for the decision is based on the fact that the same assessment team from VKU conducted the previous onsite verification (3rd MP from 01-March-2022 to 15-September-2022) in the month of February 2023 which was near to the end of fourth monitoring period (16-September-2022 to 31-March-2023(both dates included)). Moreover, no ICS distribution took place during the current monitoring period from 16-September-2022 to 31-March-2023 (both dates included). The previous sampling survey conducted by PP during the MP 3 between 14-November-2022 to 24-November-2022(both dates included) is valid and it fulfils the monitoring requirement as stated in the applied methodology/6/ and VCS PD/3/. Hence, VKU assessment team is of the opinion that remote site visit can be conducted on the basis of interview with concerned personnel and stakeholders through online mode.

2.5 Resolution of Findings

The objective of this phase of the verification is to resolve any outstanding issues which need to be clarified for VKU's positive conclusion on the project description. To guarantee transparency a verification protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of verification and the results from verifying the identified criteria. The verification protocol consists of three tables; the different columns in these tables are described below.

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

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emissions reductions that will impair the estimate of emission reductions;
- Issues identified in a FAR during validation and verification to be verified during verification have not been resolved by the project proponents.

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

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

In summary, 05 CLs, 03 CARs and 00 FARs were raised during this verification which were closed successfully and details are given under Appendix C of this report.

2.5.1 Forward Action Requests

Based on the review of the validation report /12/ and previous verification report/13/, no FAR was found to be raised which needs to be closed during this verification. No FARs were raised in current monitoring period.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and hold accreditation for validation of some sectoral scope. Hence this section is not applicable. It is to further conclude that during current verification there is no validation assessment undertaken either by VKU itself or parallelly by other certification bodies, as the same was confirmed with focussed group discussions/37/ and interview with the PP /30/ during remote visit. Assessment team assessed the VERRA's website: <https://verra.org/validation-verification/vku-certification-pvt->

ltd/#vcs wherein the scope of services of VKU certification Pvt. Ltd. is mentioned as verification and not validation. Thus, ensuring that the accreditation details mentioned in FVR is consistent and correct.

3 VALIDATION FINDINGS

The project is already registered under VCS with reference number 2341/16/. The validation/12/ and 1st verification of the project was done by Carbon Check (India) Pvt Ltd /13/ and it was registered under the VCS registration reference no. 2341. The second and third verification was done by VKU Certification Pvt Ltd. The fixed crediting period is from 29-November-2020 to 28-November-2030 (both dates included). This verification assessment is for the fourth monitoring period from 16-September-2022 to 31-March-2023 (both dates included).

3.1 Participation under Other GHG Programs

The project is registered only under VCS and is eligible to participate under the VCS program. It is not registered in any other GHG program. This was confirmed based on independent assessment, interviews with project proponent and declaration submitted by PP/19/, the assessment team accepted the claim that there will not be double counting from this grouped project activity. Thus, ensuring emission reduction generated from the grouped project activity will not be double counted hence accepted by the assessment team. Also, assessment team checked the following registries to confirm the same. The details of the registries checked are as follows:

1. <https://cdm.unfccc.int/Projects/projsearch.html>

2. <http://www.goldstandard.org/>

3. <https://registry.verra.org/app/search/VCS/All%20Projects>

4. https://projects.globalcarboncouncil.com/pages/approved_projects

Rejection by other GHG programs

The Project is not rejected by other GHG programs.

The assessment team as part of double counting diligence explained above, also checked for rejection by any other registries to confirm the same. The details of the registries checked are as follows:

1. <http://cdm.unfccc.int/>
2. <http://www.goldstandard.org/>
3. <https://verra.org/verra-standards-and-programs/>
4. https://projects.globalcarboncouncil.com/pages/approved_projects

3.2 Methodology Deviations

No methodology deviation has been applied during the current monitoring period from 16-September-2022 to 31-March-2023 (both dates included). Also, there were no deviations identified during the previous verification which were confirmed from the previous verification reports/13/.

3.3 Project Description Deviations

The project activity ownership changed to C-Quest Capital SGS Stoves Private Limited for this project activity and applicable from Communications Agreement dated 03-November-2022 and Accession Representation dated 11-January-2023. The relevant document for change in company name and corresponding communication agreement to VCS has been provided. The same has been approved by the registry and confirmed from the VERRA website¹.

This is the project description deviation from the previous monitoring period. There is no deviation from the current monitoring period. This deviation does not affect the applicability of the methodology, additionality, or the appropriateness of the baseline scenario. Hence, the assessment team finds that the project deviation is valid.

3.4 Grouped Project

The grouped project (the project) is the dissemination of energy efficient stoves for cooking purposes. A total of 191,974 ICS were disseminated by the end of this monitoring period. Total operational stoves are 172,777.

¹ <https://registry.verra.org/app/projectDetail/VCS/2341>

Table 8: Monitoring period wise ICS distribution

Date of first ICS installed/Project Start date	29-November-2020
No. of instances added/ICS installed during 1 st MP	72,188
No. of instances added/ICS installed during 2 nd MP	119,770
No. of instances added/ICS installed during 3 rd MP	16
No. of instances added/ICS installed during 4 th MP	0
Total no. of ICS distributed till end of 4 th MP (31-March-2023)	191,974
Total Operational Stoves	172,777

The distributed volume of ICS during this monitoring period does not match the anticipated volume stated in the registered project description. The installation of new stoves under the project is solely determined by the project's investor. In accordance with the investor's decision, new stoves were not installed during the current monitoring period which was confirmed with relevant personnel during remote interviews & focussed group discussions/30//37/.

However, during third monitoring survey/20/ conducted by PP, it was found that 100% stoves were operational. Also, during onsite visit of the last verification conducted by VKU Certification, VKU's assessment team found all stoves were operational and found non-use of the baseline stoves by any of the end-user households sampled by VVB. Hence, 100% stoves were considered to be operational during the current monitoring period resulting in higher emission reductions than anticipated.

Under this grouped project PP has considered each ICS as a project activity instance (PAI) which is deemed acceptable as per the VCS Program Definitions version 4.3 and Section 3.6 of the VCS Standard version 4.4/4/. The eligibility criteria of the Project Activity Instance, was established at the group project validation in the VCS PD/14/.

- Quality and completeness of evidence, data and documentation relating to the new project activity instances:

The assessment team has reviewed the evidences collected by the PP for each of the PAI included in this verification and confirmed the following;

- Implementation and operational status of the PAI
- Monitoring and data collection
- Flow of information; generating, aggregating and reporting of the monitoring parameters
- Conformance of the new project activity instances with the eligibility criteria set out in the project description:

The verification team assessed the appropriateness of new project activity instances (added to the grouped project) against the requirements of the following key elements defined in section 3.2.11 of the Validation and Verification Manual (version 3.2) /22/:

Table 9: - Eligibility Criteria for project activity instances

No new project activity instances were added during the current monitoring period. It was verified from the project database submitted by PP/17/. Further, by cross-verifying the number of ICS disseminated in the previous monitoring period/13/ and the current monitoring period, assessment team confirms there has been no distribution in the current monitoring period.

Key Element	Requirements /22/	Verification team Assessment
Methodology: Meet the applicability conditions set out in the methodology applied to the project	The project activity instance shall use VCS approved methodology-VMR0006: Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1 and shall meet the applicability conditions set out in the methodology.	All project activity instances (TLC-CQC Rocket Stoves) meet the applicability conditions set out in Section 3.2 of the PD, where the end-user is household and the ICS deployed has 34.5% thermal efficiency, which is higher than 25%. The records for the PAIs / ICS installed have been checked and it is confirmed that the ICS installed during the monitoring period are TLC-CQC Rocket Stoves. Further end-user agreement records /7/have been checked and it is confirmed that project PAIs installed in this project activity are installed in the domestic premises of the households. The geocoordinates of the installations are provided by the PP (monitoring survey results) and some random selected instances were checked. It is confirmed that PAIs installed are in geographical location of Zimbabwe only. So, the instances are confirmed to be meeting the criteria as defined in the applied methodology/6/.
Technology: Use the technologies and measures specified in the project description	The project activity instance shall implement TLC-CQC Rocket Stoves having minimum efficiency of 25%; below which it shall not be eligible under this grouped project.	The assessment has checked the installed stove records/17/ and also verified the samples during the previous onsite visit/21/ through interviews/30/ and checking the kitchens of the households that all the stoves are TLC- CQC Rocket stoves and are operational. Moreover, during previous onsite audit verification team did not find any baseline stove usage in the sample end users/41/.

Baseline Scenario: Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.	All new project activity instances will be installed within Zimbabwe only and the baseline scenario is the continued use of non-renewable wood fuel by the target population to meet similar thermal energy needs as provided by the project cookstoves in absence of the project activity. This also conforms to the applied methodology.	Baseline scenario and geographical boundary was confirmed by the assessment team from verifying registration records cum consent deeds/7/ of individual ICS which contains geographical coordinates, address as well as confirmation by end user (stove owner) stating that they were using traditional three stone fire or pot support before the installation of project stove. The end-user agreements are checked in samples by the assessment team and details are found to be matching with the claims by the PP. This was further confirmed through focussed group discussions and interviews/30//37/ that there is no usage of baseline stoves by the households in the current scenario/21/. Also, during the audit, the assessment team has interviewed/30//41/ the sampled beneficiaries and each of them has confirmed using the conventional/traditional stoves in the pre-project scenario/baseline scenario. Verification team achieved 90/10 confidence/precision levels since only sampling was conducted and not the entire population. This was found to be appropriate to the verification team, based on the evidences and fulfilment of eligibility criteria. Thus, the requirements of this key element have been met by the project activity instances of the grouped project.
Additionality: Have characteristics with respect to additionality that are consistent with the initial instances for the specified	Each project activity instance shall demonstrate its compliance with- 1.Regulatory Surplus: The project should not be mandated by any law, statute or other regulatory framework, or for UNFCCC non-Annex I countries, any	1.Regulatory Surplus: There is no law, statute or government programme or policy in Zimbabwe mandating the project activity nor is there any systematically enforced law, statute or other regulatory framework for such projects applicable in the Republic of Zimbabwe. Further, representatives of the PP and the beneficiaries were also interviewed during

project activity and geographic area.	systematically enforced law, statute or other regulatory framework. 2. Positive List: The inclusion of new project activity instances shall have to comply with positive list that is the ICS are installed/ distributed at zero cost to end user and the project activity instance has no other source of revenue but GHG credits.	the audit/30//41/. Hence this requirement is satisfied for all project activity instances to be included in the current grouped project. 2. Positive List: ICS were distributed at zero cost to stove owner/end user. Further during the audit/21/, it was checked and confirmed with each beneficiaries the ICS are given to them free of cost and they are not being charged in any terms at the time of installation or during the ongoing operation. Verification team also interviewed/30/ the enumerators, promoters present during the onsite audit/41/ for verifying the zero-cost distribution and found consistent answers. The sample purchase records/33/ for stoves are also checked to confirm the purchase of stoves by the PP. Thus, PAs added during the monitoring period are confirmed to be complying the additionality requirement as defined in the applied methodology/6/ and the registered PD/3/.
Geographic Areas	VVBs must ensure that the project description clearly identifies the geographic areas within which new instances may be added. Geographic areas must be defined using geodetic polygons and provided in a KML file. Such geographic areas need not be contiguous and may be large or small, noting the grouped project requirements for additionality and baseline assessments of the geographic area.	The verification team reviewed the sales record database /17/ and by further conducting interviews/30/ with representatives of PP to confirm that all new project activity instances are located within the geographical area identified in the registered VCS PD /14/. All new project activity instances are located within the host country of Republic of Zimbabwe /17/. This was further verified by the KML file/39/ submitted by PP indicating the project boundary which is Republic of Zimbabwe. VVB assessed the End-user agreements on sample basis and confirms the geographic area was the Republic of Zimbabwe/7/. This was found to be appropriate to the verification team as per VCS Standard v4.4 para 3.11.1 and in line with the registered

		VCS PD/14/. Thus, the requirements of this key element are met.
Ownership: Have evidence of project ownership, in respect of each project activity instance, held by the project proponent from the respective start date of each project activity instance	A default Beneficiary Agreement for end users including the provision that emission reductions generated by the project activity are owned by the Project Proponent will be provided for project activity instance.	The assessment team has examined the copy of End user agreement/7/ given by end users to project participant regarding emission reduction claims.
Start Date	The start date of project activity instance shall be same as or later than the grouped project start date.	Project Activity Instance Database containing date of installation of each ICS. The verification team also verified the end-user agreement/7/ of the 1 st ICS installed under the grouped project date. The first ICS under the project has been installed on 29-November-2020 which is same as the start date of the project in the registered VCS PD/14/.
Where a capacity limit applies to a project activity included in the project, no project activity instance shall exceed such limit	The aggregate energy savings by a single project activity shall not exceed the equivalent of 180 GWhth/year as mentioned in the methodology AMS II G: Energy efficiency measures in thermal applications of non-renewable biomass. Each project activity instance that exceeds one percent of the capacity limit (i.e., 1.8 GWhth) shall be identified.	The registered and validated PD/14/ considers the one single ICS as a Project Activity Instance. The initial (highest) efficiency of the project activity cook stove is validated and fixed ex-ante during the validation based on the manufacture's specification/9/. As per the applied methodology/6/, the PP has carried out the survey during the first monitoring period and expected wood saving to be achieved per stove is also determined and fixed in first monitoring period and fixed for the rest of the crediting period. This was further confirmed from the approved reports issued on the VERRA/16/. In view of above the expected

	3. Such instances shall be divided into clusters, whereby each cluster is comprised of any system of instances such that each instance is within one kilometer of at least one other instance in the cluster. Instances that are not within one kilometer of any other instance shall not be assigned to clusters.	annual energy saving for each PAI comes to approximately 0.00696 GWhth/y only. Which is 0.01% of the limit. Capacity Limit of each ICS=180 GWhth/y The efficiency of the stove is not expected to increase (or rather it will decrease) and wood (energy) saving per stove to be claimed is also fixed. So, it is concluded that no PAI has crossed or is expected to cross the limit. Further there is also no requirement of the cluster wise determination as instance cross the mark of 1% capacity limit.
Double Counting	The Improved Cookstove distributed under this project shall be uniquely identifiable based on the distribution records	The assessment team has examined the copy of End user agreement/7/ given by end users to project participant regarding emission reduction claims containing corresponding end user details (i.e., name, geographical coordinates, unique serial number) and the Project Activity Instance Database/17/ containing unique serial number of each ICS.
Target Population	End user for each project activity instance shall be households, with non-renewable biomass on inefficient wood stoves. Each ICS will be assigned a unique serial number with name of ICS user, address, GPS of household, stove model, distribution date, etc	The assessment team reviewed the End user agreement/7/ given by end users to project participant regarding emission reduction claims containing corresponding end user details (i.e., name, geographical coordinates, unique serial number), the Project Activity Instance Database/17/ and through onsite interviews/30/. It was confirmed through interviews of the sampled households, the end-users were previously using 3-stone fire for cooking which is replaced by ICS due to this project activity. VVB observed during previous onsite audit all sampled end-users were using the ICS distributed by PP/21//41/.
Crediting period	Be eligible for crediting from the start date of the instance	In accordance with the supporting document 'Manufacturer specifications'/9/ submitted

	through to the end of the project crediting period (only). Note that where a new project activity instance starts in a previous verification period, no credit may be sought for GHG emission reductions or removals generated during a previous verification period and new instances are eligible for crediting from the start of the next verification period.	by the PP the ICS distributed has a lifetime of 10 years. Accordingly, PP has opted for a crediting period of fixed 10 years which is in line with the VCS standard/4/.
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However, based on the above assessment the verification team confirms that project activity instances in the grouped project are valid.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

As verified from remote assessment and monitoring results of PP conducted during third monitoring period, the audit team confirms the project implementation and operation complies with the PD/14/. The purpose of the project is to disseminate efficient, improved cooking stoves (ICS) in rural households of Zimbabwe. The improvement in thermal efficiency is achieved by properly designing the dimensions of the combustion chamber and ensuring effective air flow during cooking. The baseline cooking practice in Zimbabwe is the use of the three-stone fire cooking, popularly known as conventional method using firewood. The project thus reduces greenhouse gas (GHG) emissions by replacing traditional wood-fuel by ICS. The replacement of conventional method by ICS improves heat transfer to the cooking utensil thereby reducing the amount of fuel (non-renewable biomass) required for cooking.

A reduction in consumption of non-renewable biomass contributes towards reduction in GHG emissions into the atmosphere. Thus, ICS reduce GHG emissions through their improved thermal efficiency as compared to traditional/baseline stoves. This project is implemented by Practical Action (PA) /15//18//20/. Users transfer the ownership of carbon credit via end user agreement /7/. The operational and management structure is verified from document review and remote interview /30/. The verification team confirms that during the current monitoring period i.e., 16-September-2022 to 31-March-2023 (both dates included) the VCS grouped project has disseminated 191,974 ICS implemented in Zimbabwe/17/.

The first stove was installed on 29-November-2020 and is also verified from project installation database/17/ and validation report/12/ and end user agreement/7/ and was found to be

accurate. The ICS promoted under the project have 10 years technical life /9/ and initial tested efficiency of ICS was 34.5 %. This was further confirmed by the verification team by the TLC Brochure/9/ submitted by the PP. During this fourth monitoring period operational status of total 191,974 ICS were taken into consideration and remote interviews/30/ and third monitoring survey conducted by PP between 14-November-2022 to 24-November-2022 (both dates included) confirmed a 100% operational rate /2/. VVB assessment team also confirmed via onsite visit no baseline stoves were used in the sampled households. PP has considered the average usage rate of ICS being captured during the recent monitoring survey/15/. As per PP's recent monitoring survey, the average usage rate of ICS per week is 6.74. $B_{(y=1, new, i, j, survey)}$ considered with the actual usage rate of ICS i.e., 6.74 days/week $(1.0758 \times 6.74/7) = 1.0359$ Tonnes per device per year. The average actual usage rate of ICS was confirmed by verifying the sampling survey sheet submitted by PP/15/.

The monitoring survey from the third monitoring period is applicable in this monitoring period as per Section 5.3 of VCS PD dated 22-February-2022/14/. It was verified by the assessment team that number of TLC rocket stoves remains the same as the previous monitoring period by cross-verifying from the previous monitoring period documents/13/ and current verification documents/1/2/17/. PP used the same monitoring survey results for the current monitoring period, from 16-September-2022 to 31-March-2023 (including both dates). The monitoring survey conducted by PP from 14-November-2022 to 24-November-2022 is valid as the frequency prescribed for monitoring survey in the monitoring plan is Annual/Biennial. Additionally, the methodology VMR0006 suggests (page number 15, section 9.2) conducting a monitoring survey at least once every two years. The operational rate was further confirmed by the section 9.2 of applied methodology, "Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$) can be measured directly or based on representative sample."

However, as per VERRA findings, PP has revised the operational rate, hence the number of operational cookstoves has been modified from 191,958 to 172,762. It is found to be more conservative by VVB since the operational cookstove were found to be 100% based on the monitoring survey by PP for this monitoring period. The latest survey depicts 95.63% stoves are in operation. The secondary data of other projects registered in the same project region suggests the operation percentage is 91.70% which is less than 100%. PP has considered the more conservative value of 90% which is found as per the stove champion follow up survey conducted in latest MP which is very conservative value and more details are provided in Appendix-B attached to this report /43/.

So, to measure $N_{y,i,j}$, PP multiplied the achieved proportion with commissioned stoves that is $100\% \times 191,974 = 191,974$.

Table 10: Monitoring period wise ICS distribution

No. of instances added/ICS installed during 1 st MP	72,188
No. of instances added/ICS installed during 2 nd MP	119,770
No. of instances added/ICS installed during 3 rd MP	16
No. of instances added/ICS installed during 4 th MP	0
Total no. of ICS distributed till end of 4 th MP (31-March-2023)	191,974
Total Operational ICS	172,777

To show the easy facilitation of the implementation of project, the table shown below depicts the stove distribution status per each Province of Zimbabwe.

Table 11: Province wise ICS distribution in Republic of Zimbabwe

Name of province	Number of cookstoves installed till the end of monitoring period (31-March-2023)
Mashonaland East	38,848
Mashonaland Central	89,878
Mashonaland West	63,236
Harare	12
Total numbers of stoves installed in Zimbabwe under the project	191,974

During the interviews /30/ verification, QA/QC procedures were identified which demonstrate that:

Operational and management system of the grouped project is in place; data were centralized; monitoring data were crosschecked with the sales records stored and confirmation that all operational staff were trained before taking up positions /18/. The verification team thus confirmed that the monitoring of the grouped project activity has been implemented in accordance with the monitoring plan in the registered VCS PD. The registered VCS PD /14/ clearly describes the monitoring and responsibility of monitoring is done by PP.

During the remote interviews/30/, it was found that if the stove owners are unsuccessful in stove repairing, stove owner can contact the ground staff of PP/implementor over phone (phone number is provided to the stove owner upon stove registration) in the TLC brochure/35/ and the field staff notify the implementer to provide the necessary assistance.

It is noted that no changes have been observed or identified during the remote audit which 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 grouped project activity or applicability of baseline and monitoring methodology VMR0006 “Methodology for Installation of High Efficiency Firewood Cookstoves” version 1.1/6/.

VKU verification team confirms that all the emission sources within the project boundary have been considered appropriately. Monitoring of all parameters during the monitoring period is followed as per registered monitoring plan. The table below describes the data/parameters relevant to the monitoring plan.

Table 12: Data parameters fixed ex-ante and available at validation are given below:

	Data/parameter	Unit	Value applied	Assessment
1	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass (fNRBy)	Fraction	0.88	The value has been calculated in accordance with Tool 30 version 3; using latest available versions of Food and Agriculture Organization (FAO) report, UN Data and other publicly available data that have been published by reliable sources. The value is fixed as per registered PD/14/ for the entire crediting period.
2	Net calorific value of the non-renewable woody biomass that is substituted or reduced (NCVwood fuel)	TJ/tonne	0.0156	It is IPCC default value verified from 2006 IPCC Guidelines for National Greenhouse Gas Inventories/27/; Volume 2 Energy, Chapter 1 Introduction. Further, this is a default value as stated in the VMR0006 Methodology, version 1.1/6/.
3	CO2 emission factor for the use of wood	tCO2/TJ	112	It is an IPCC default value verified from 2006 IPCC Guidelines for National

	fuel in baseline scenario (EF _{wf} ,CO ₂)			Greenhouse Gas Inventories/27/; Volume 2 Energy, Chapter 2 Stationary combustion. The value is fixed as per registered PD/14/ for the entire crediting period.
4	Non-CO ₂ emission factor for the use of wood fuel in baseline scenario (EF _{wf} ,non CO ₂)	tCO ₂ /TJ	26.23	It is IPCC default value from 2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion. This value is fixed ex-ante during validation /12/
5	Efficiency of baseline cookstove (η_{old})	Fraction	0.1	A default value of 0.1 shall be used if baseline device is a three-stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney. Further, this is a default value as stated in the VMR0006 Methodology, version 1.1/6/.
6	Efficiency of project stove at the start of project activity(np)	Fraction	0.345	As per manufacturer specification/9/. Consistent with the registered PD /14/. This has been validated during registration as well /12/.

Table 13: Data and parameters monitored

Parameter	Value	Description/Assessment
Number of project devices of type i and age a that are operating in year y Ny,i,i	172,777	Cross-check of a sample of project participants' samples (questionnaire operation surveys/interviews) including but not limited to following:

		- Consistency between the information as contained in previous monitoring period's Survey sheet and revealed from the on-site interviews - Baseline scenario of the household - Enquire/observe the pre-project/baseline stove/s and its operation during the project scenario, if any As per the Monitoring Period sample survey, 100% of stoves were found to be operational. However, due to VERRA findings raised because of inconsistencies. Data has been updated. As per the stove champion follow up survey conducted in latest Monitoring period, stoves in operation were 95.63%, and as per the secondary data of other projects/43/, stoves in operation percentage was 91.70%. PP has considered minimum number of stoves in operation as 90%. Hence, PP has considered the lowest value of stoves in operation 90% on a conservative basis. - So, to measure $N_{y,i,j}$ PP multiplied the achieved proportion with commissioned stoves that is $90\% \times 191,974 = 172,777$
Efficiency of the improved cookstove type i and batch j during year y ($\eta_{new,i,j}$)	For Vintage 1: 32.43% For Vintage 2: 32.11 % For Vintage 3: 31.78%	This parameter has been calculated using equation 5 of the applied methodology/6/. The applied efficiency is correct as per the methodology requirement and registered VCS PD /14/ and hence accepted.

Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j, determined in the first year of the implementation of the project through a sample survey. $B_{y=1,new,i,j,survey}$	0.7439	In accordance with the applied methodology/6/ and registered VCS PD/14/, the parameter is determined during the first verification and fixed for the remaining crediting period. During the current monitoring period, Assessment team: - Has verified sampling and calculation sheet of Monitoring Period 1 and /31/ for determination of wood consumption for checking the consistency of values used - Confirms it was demonstrated that the consumption of biomass for individual project stoves can be measured exclusive of one another (for two pot stoves). -As per the VERRA findings the wood consumption value for parameter $B_{y=1,new,i,j,survey}$ has been changed by PP for MP-1 and consecutively in this MP also which is cross checked with the raw data sent by PP /40/ for all samples surveyed according to the requirement of methodology. - Confirms that PP has used the value which has been used during the Monitoring Period 1,2,3. - During the recent monitoring survey, PP has checked baseline stoves to see if any were being used along with project stoves and found no households using baseline stoves. VVB confirmed by verifying the sampling survey sheet/15/ and interviews during previous onsite audit conducted by VVB/41/ with local stakeholders and end users.
Life Span	10 years	As per manufacturer specification on/9/. Value was fixed once at the time of project stove installation. It is

		consistent with the registered VCS PD /14/.
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Assessment team concludes the following:

- There are no material discrepancies between project implementation and the project description found in current monitoring period.
- The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters) is appropriate.
- There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/6/.
- The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation/12/ or previous verification /13//35/.
- The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading/19/.
- According to VCS Standard 4.4/4/, specific guidelines are applicable when the producer(s) or retailer(s) of the impacted good or service are identified but not involved in the project or do not possess a website. The distribution agent has been informed by the Project Proponent (PP) that Verified Carbon Units (VCUs) may be issued for the greenhouse gas emission reductions and removals achieved through this grouped project. The PP intends to claim carbon credits under VERRA. To support the current project verification, the PP has submitted evidence in the form of emails and a public statement, which can be found in Appendix-B of the monitoring report (MR/1/). This evidence confirms that the PP has communicated with suppliers to prevent any double counting of emission reductions. /38//39/.
- The grouped project activity complies with seven indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR /1/. Assessment team has verified the same during remote site visit/21/ and found all the indicators to be effective and applicable for the grouped project activity. SDG Indicators taken by PP are-
✓ **4.3.1 i.e. (Number of individuals who received any informal training)** Vocational training and project related training with respect to successful implementation of programme, appropriate methods of conducting surveys, carrying out maintenance activities etc. in addition to issues related to climate change was provided to at least 5 individuals associated with the project. Assessment team has verified training documents/18/.

- ✓ **7.1.2 i.e. (Proportion of population with primary reliance on clean fuels and technology)** Increasing access to clean cooking technology by distributing a set of project stoves in 95,987 households. Assessment team verified the same through ER Sheet/2/ and remote audit/21/.
- ✓ **8.3.1 i.e. (Proportion of informal employment in non-agriculture employment, by sex)** A total of 5 individuals were directly and indirectly employed under the project activity during the current monitoring period in Country for various activities related to project implementation, maintenance, and monitoring. Assessment team verified the same through training and employment records of employees/18/.
- ✓ **13.0 i.e. (Tonnes of greenhouse gas emissions avoided or removed)** Due to installation of this project activity, PP has prevented the release of 266,880 tCO₂ eq emissions in the current monitoring period into the atmosphere. Assessment team verified the emissions reductions for the project through ER spreadsheet/2/.
- ✓ **15.2.1 i.e. (Progress towards sustainable forest management by increasing above ground biomass in forests)** The project has resulted in saving of 240,743 tons of biomass in 95,987 households during the current monitoring period. Assessment team verified the same through ER spreadsheet/2/.
- ✓ **3.9 i.e. (Reduction in PM 2.5 emissions)** Annual emission of PM 2.5 is reduced by 47% in project households. For the 95,987 households which have received 2 stoves each. The same is evidenced from survey results/15/ which show that 100% of the respondents felt reduction in smoke and soot levels near the cooking area and 97% of respondents experienced reduced levels of itchiness of eye associated with cooking on open fire. Assessment team verified the response of HH through Sampling _Survey sheet_2341_Zimbabwe MP3/15/.
- ✓ **5.4.1 i.e. (Proportion of time spent on unpaid domestic and care work, by sex, age, and location)** The project survey results augment the above claim as 72% of the respondents reported to having experienced fewer trips for wood collection freeing up their time for other activities. Assessment team verified the response of HH through Sampling _Survey sheet_2341_Zimbabwe MP3/15/.

In view of the information as verified above the assessment team is able to conclude that the grouped project has been implemented as described in the registered VCS PD/14/, All the above stated information was verified by VVB during Remote Audit/2/ and personnel interviews /30/ with stakeholders.

Table 14: Assessment of the audit history is as below-

Audit Type	Monitoring Period	Program	VVB Name	Number of years	Conclusion
Validation	Not Applicable	VCS	Carbon Check (India) Private Ltd	Not Applicable	Ok/12/
Verification	29-November-2020 to 31-August-2021(Both dates are included)	VCS	Carbon Check (India) Private Ltd	0 years, 9 months, 3 days.	VKU's assessment team has cross verified the emission reductions reported in the monitoring report for MP 1 along with the verification report for MP 1 and VCU's issued were cross verified from the VCU's issuance record link available on the project webpage/8/.
Verification	01-September-2021 to 28-February - 2022(Both	VCS	VKU Certification Pvt.Ltd.	0 years, 6 months, 0 days.	VKU's assessment team has cross verified the

	dates are included)				emission reductions reported in the monitoring report for MP 2 along with the verification report for MP 2 and VCU's issued were cross verified from the VCU's issuance record link available on the project webpage/8/.
Verification	01-March-2022 to 15-September-2022(both dates included)	VCS	VKU Certification Pvt.Ltd.	0 years, 6 months,15 days.	VKU's assessment team has cross verified the emission reductions reported in the monitoring report for MP 3 along with the verification report for MP 3 and VCU's issued were cross verified from the VCU's issuance record link

					available on the project webpage/8/.
Verification	16-September-2022 to 31-March-2023(both dates are included)	VCS	VKU Certification Pvt.Ltd.	0 year, 6 months, 16 days	VKU's assessment team has assessed and verified the current (MP-4) MR and prepared Verification Report for MP 4 and concluded a positive verification statement for the current verification period.
Total	27-January-2021 to 31-March-2023(both dates are included)	VCS		2 years, 04 months, 03 days.	Ok

4.2 Safeguards

4.2.1 No Net Harm

The project involves use of improved cooking stove in households replacing conventional cooking stoves. The project does not compel the population to adopt any practice or habit that they are unwilling to embrace. The cooking practice or habit on the project stove remains consistent with what was practiced before the implementation of this project activity, specifically, on the baseline stove.

The project activity fosters gender equality by aiming to alleviate the burden on women in the most vulnerable communities through the reduction of fuel wood consumption. This reduction in fuel wood collection and cooking time will result in women having more time available for other endeavours. Additionally, there will be a decrease in the risk of exposure to gender-based violence.

Therefore, the project results in avoidance of CO₂ emissions due to improvement in efficiency as verified from the manufacturer's specification /9/. Therefore, there is no negative environmental impact from the grouped project activity. In addition, due to the grouped project activity, jobs are created on local level as verified during remote audit interview /30/ which has improved socio-economic impacts in the project area.

The project is neither involved in any activity that would bring environmental deterioration nor will lead to any emission of toxic substances. The project stoves will rather reduce emissions due to the increased thermal efficiency compared to the baseline stoves. Any leakage is accounted in the VMR0006 V1.1 Methodology/6/. Leakage is considered as default 0.95 in accordance with methodology/6/.

Therefore, there is no net harm from the grouped project activity.

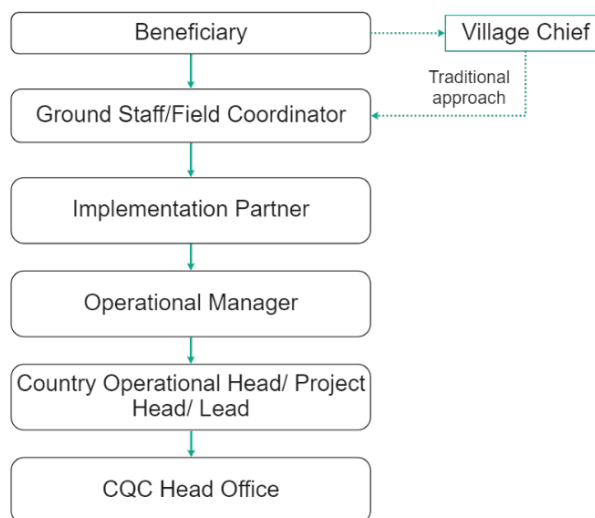
4.2.2 Local Stakeholder Consultation

Local stakeholder consultation is not applicable for the project proponent during verification. PP organized stakeholder consultation during validation /12/ of the grouped project activity which was validated by CCIPL/12/. The verification team has interacted with local stakeholders during remote assessment /21/ and details are summarized in section 2.3 of this report. There was no negative comment or feedback from local stakeholders as recorded by the verification team.

The local implementation partners as well as PP have the responsibility to take grievances regarding the grouped project activity and same will be conveyed to PP during operation of grouped project activity. Thus, ongoing communication of stakeholders is followed through grievance mechanism.

The Project Proponent has reported its feedback and grievance redressal procedure in Section 2.2 of the MR /1/, and the policy is outlined in the document “Grievance Redressal Mechanism” /35/. In the opinion of assessment team, based on interviews/30/ and observations, the grievance redressal procedure will address issues that may arise during project planning and implementation. The grievance redressal process has been designed where beneficiaries and stakeholders have PP contact information and the understanding that they should contact the organization with any problems, questions, or grievances.

As per VCS PD /14/ and further confirmed during remote interviews /30/, the end-users have a provision to approach PP through their village chief. The village chief then reports the concerns to the concerned person, i.e., field staff from PP who takes it further and resolves the issue. In the opinion of VVB, this would protect the traditional sentiments and value system of the villages and help them express their issues without any hesitation and deemed appropriate to the VVB. The typical diagram of this grievance addressal mechanism is mentioned in the section 2.2 of the MR /1/.



Flow of information/complaint/grievances from stakeholder to PP

During the remote interviews/30/ and based on document review /15/, it can be confirmed that grievance addressal procedure has been designed and is implemented according to section 2.2 of the MR /1/ and that it is effective in its aim. The grievances recorded during the current monitoring period are mentioned in the MR/1/.

The verification team confirms on the procedure and method for engagement, method for documenting the outcomes of local stakeholders' consultation and account of all inputs received. The verification team confirms that the project proponent has taken due account of all input/ feedback received during the monitoring process (positive or negative) have been compiled in the sampling survey results sheet /15/ and in Section 2.2 of MR, this has been checked by the verification team during the remote interviews /30/. Hence the verification team found the local stakeholders ongoing communication as appropriate.

4.3 AFOLU-Specific Safeguards

The project is a non-AFOLU projects, this section is not required.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The equations and choices provided in the methodology /6/ and all other methodological tools are correctly quoted in the MR /1/. The emission reductions of the project instances of the grouped project and project activity instance are calculated using the formulae mentioned in the applied methodologies; VMR0006 version 1.1 /6/. The verification team has reviewed the emission reduction spread sheets (ER sheets) /2/ and checked all the formulae and found they are correct and are in accordance with the monitoring plan of the PD /14/ and the applied monitoring methodology /6/.

According to applied methodology VMR0006 (version 1.1) /6/ the emissions are calculated as below:

Baseline Emission:

$$ER_y = \sum_i \sum_j ER_{y,i,j} \quad \text{Equation (1)}$$

Where:

- i = Indices for the situation where more than one type/model of improved cookstove is introduced to replace three-stone fire
- J = Indices for the situation where there is more than one batch of improved cookstove of type i
- ER_y = Emission reductions during year y in t CO₂e
- ER_{y,i,j} = Emission reductions by improved cookstove of type i and batch j during year y in t CO₂e

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times f_{NRB,y} \times (EF_{wf,CO_2} + EF_{wf,non\ CO_2}) \times N_{y,i,j} \times 0.95 \quad \text{Equation (2)}$$

Where:

$B_{y,savings,i,j}$	=	Quantity of woody biomass that is saved in tonnes per improved cookstove of type i and batch j during year y
$f_{NRB,y}$	=	Fraction of woody biomass that can be established as non-renewable biomass (f_{NRB})
$NCV_{wood\ fuel}$	=	Net calorific value of the non-renewable woody biomass that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/tonne) ²
EF_{wf,CO_2}	=	CO ₂ emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 112 tCO ₂ /TJ) ³
$EF_{wf,non\ CO_2}$	=	Non-CO ₂ emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 26.23 tCO ₂ /TJ) ⁴
$N_{y,i,j}$	=	Number of improved cookstoves of type i and batch j operating during year y
0.95	=	Discount factor to account for leakage

To calculate $B_{y,savings,i,j}$, PP use equation 4 of the applied methodology⁵

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

Where:

$B_{y=1,new,i,survey}$ Annual quantity of woody biomass used by improved cook stoves in tonnes, determined in the first year of the implementation of the project through a sample survey

η_{old} Efficiency of baseline cookstove. A default value of 0.10 has been used as the replaced system is a three stone fire, or a conventional system with no improved combustion air supply or flue gas ventilation system, i.e., without a grate or a chimney.

$\eta_{new,i,j}$ Efficiency of the improved cook stove determined using Equation 5 of the methodology.

$$\eta_{new,y,i,j} = \eta_p \times (DF_n)^{y-1} \times 0.94$$

²2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 1 Introduction

³2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion

⁴2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion

⁵Equation 4 of methodology VMR0006, version 1.1

Where:

η_p	Efficiency of project stove (fraction) at the start of project activity
$(DF_n)^{y-1}$	Discount factor to account for efficiency loss of project cookstove per year of operation (fraction). default value of 0.99 efficiency loss per year has considered for the project activity
0.94	Adjustment factor to account for uncertainty related to project cookstove efficiency test

Leakage Emissions: In accordance with methodology VMR0006 version 1.1/6/, leakage is considered as default 0.95.

Sampling approach: -

As assessed in this section, emission reductions for the project “Installation of high efficiency wood burning cookstoves in Zimbabwe” are being claimed for this monitoring period and the total population of the stoves for the current monitoring period i.e., 16-September-2022 to 31-March-2023 (both dates included) is 191,974 ICS. Operational ICS in this monitoring period: 172,777.

The sampling plan implemented by the PP is in accordance with the applied approved monitoring methodology /6/ and the VCS PD /14/. The PP has appropriately performed Simple random Sampling procedure, reliability levels were set at 90% confidence and 10% precision in line with the applied methodology VMR0006 version 1.1/6/. Survey has been carried out. As the VCS PD /14/ mentions the option for Simple random Sampling, so it was found appropriate to the verification team.

The sampling surveys/15/ have been carried out by the well-trained personnel/18/ Further, preparedness for conducting survey was adequate and survey plan was robust. Monitoring parameters $N_{y,i,j}$ was monitored through monitoring sample surveys. Monitoring of the parameters ensures compliance with the applied methodology VMR0006, version 1.1 /6/. Verification team has checked the survey records /15/ and sample size calculation/10/. Parameter $N_{y,j,j}$ monitors the number of stove in operation. The sample size calculation is mentioned under section 4.3 of the MR/1/.

Table 15: Sample size calculation

Definition	Value	Justification
The population size N is	1 st MP:72,188 2 nd MP; 119,770 3 rd MP: 16 4 th MP: 0	Number of stoves registered in database

	Total:191,974	
The expected proportion p for ny,i is	0.85	A conservative assumption of 85% is applied for sample size calculation.
Sample size	47.74	Calculated
Sample size (Rounded up)	48	Calculated
Total Sample selected short listed	69	Including 30% non-response

The above table mentions the sample size calculated applying the formula;

$$n \geq \frac{1.645^2 \times 191,974 \times 0.85(1 - 0.85)}{(191,974 - 1) \times 0.1^2 \times 0.85^2 + 1.645^2 \times 0.85(1 - 0.85)} = 47.74$$

However, as per the sampling Guideline: Sampling and surveys for CDM project activities and programmes of activities version 04 /10/, Appendix 2, § 3.1

Retention rate of improved cookstove (proportion parameter) –

“The required sample size for this parameter is dependent on:

- (a) The expected value of the proportion parameter;
- (b) The level of precision and confidence in that precision (90/10 reliability criterion).

Based on similar studies done in the region, it is thought that this proportion is 0.85 (85%) during this monitoring period. Since the PAIs are assumed to be homogeneous with respect to the retention rate of improved cookstove.

In the registered VCS-PD /14/, section 5.3, the expected proportion value was assumed to be 0.8 expecting that the 80% of the ICS still in operation (was just an example to show how PP will calculate the sample size using the formula mentioned in VCS-PD). During this MP verification, 0.85 has been chosen as proportional parameter by PP, considering 85% of ICS will be operational. The confidence /precision level is 90/10 but PP has taken the assumption of 85% as a more conservative approach as PP is assuming only 85% ICS to be operational, although as found from the actual sampling survey conducted by the PP/15/,100% ICS were operational. Hence, the rejection level is under 10% and within the limits. Sample size, thus arrived, meets the relative precision error i.e., under 10%. However, actual proportion of ICS in operation is observed as 100% during the previous verification, which shows that considering 0.85 as expected proportion is conservative on PP's side. Although, now PP has considered operational percentage of stoves as 90% based on Secondary data like other projects set up in the same region/43/.

According to the section 9.2 of applied methodology, “Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$) can be measured directly or based on representative sample.”

PP had conducted third monitoring survey during the period of 14-November-2022 to 24-November-2022 (both dates included) in Zimbabwe. The monitoring survey from the third monitoring period is applicable in this monitoring period as per Section 5.3 of VCS PD dated 22-February-2022/14/, the monitoring survey conducted by PP is valid as the frequency prescribed for monitoring survey in the monitoring plan is Annual/Biennial. Additionally, the methodology VMR0006 suggests (page number 15, section 9.2) conducting a monitoring survey at least once every two years. During the survey it was found that 100% project devices are operational and no baseline stoves were found in the sampled households. This was further confirmed by the Verification team from the submitted sampling survey sheet/15/ and photographs from the survey/15/. As per the stove champion follow up survey conducted in latest Monitoring Period, stoves in operation were 95.63%, and as per the secondary data of other projects, stoves in operation percentage was observed as 91.70%. PP has considered as minimum number of stoves in operation as 90%. Hence, PP has considered the lowest value of stoves in operation 90% on a conserve basis. Assessment team conducted acceptance sampling based on the sampling and survey sheet/15/ submitted by the PP.

So, to measure $N_{y,i,j}$ PP multiplied the achieved proportion with commissioned stoves that is

$$90\% \times 191,974 = 172,777$$

Hence, the verification team found it is in line with the sampling guideline and PD /14/ found the sampling approach conservative and appropriate, based on the provisions of the sampling guideline and the same has been updated in section 4.4 of the FVR.

Table 16: The resultant applied sample size by the PP are summarized below:

Parameters	$N_{y,i,j}$
Sample size -ICS	48
Actual Samples Surveyed (each household has 2 ICS)	96
ICS found operating	100%
Precision achieved	0.28%

During the MP 3 Verification, VVB used acceptance sampling during verification for checking the operational status in the households. In accordance with the paragraph 26 of the sampling standard, acceptance sampling has been chosen by the verification team. Verification team has opted for AQL of 0.5 % and UQL of 20%; producer risk of 5% and consumer risk of 15% as per VVBs professional judgement according to para 30 of Sampling and surveys for CDM project activities and programme of activities v 09.0 /11/ in determining the VVB's sample size of 09 ICS with acceptance number (c) as 0. This is also in line with VKU's internal procedures/34/. Verification team inspected 09 samples and in total-18 ICS samples (since each household has 2 ICS, from monitoring survey). It was observed that out of the 18 samples, all the 18 stoves were found to be operational and this matched with the PP's records and hence no discrepant records were observed with the MR /1/ and ER spreadsheet /2/ and thus c=0. Thus, PP's set of records has been accepted in line with para 33 of the sampling standard, version 09 /11/. Moreover, during the onsite visit for the 3rd monitoring period, it was also concluded that none of the sampled households were using the baseline stoves. Verification team has cross verified these sample documents.

The monitoring parameters to be monitored through the sampling plan is:

1. Number of project devices operating during year y ($N_{y,j,i}$)

Simple random sampling was applied by the PP for selection of the monitoring samples with 90/10 confidence/precision for determining the sampling for all the parameters which is deemed acceptable as per the VCS PD/14/. 90/10 is a methodological choice/6/.

Furthermore, the database and sample sales invoice /33/ was also checked/cross verified to confirm the number cookstove for the parameter $N_{y,i,j}$.

As per paragraph 25 of the Sampling Standard, version 09 /11/, the verification team has to verify whether the project participants entity have implemented the sampling and surveys according to the sampling plan in the registered monitoring plan. The verification includes determining:

- (a) Whether the required confidence/precision has been met;
- (b) Whether the selected sample was representative of the population.

As per the applied methodology VMR0006 version 1.1 section 9.2 /6/, and registered VCS PD /14/ the necessary confidence / precision of 90/10 for the parameters have been met. 90/10 is a methodological choice/6/ and has been cross verified by the verification team from the supporting documents submitted/2//15/.

Emission reductions have been calculated in accordance with the applied methodology VMR0006 version 1.1 /6/, and VCS PD /14/. The PP has used monitored data and ex-ante fixed data including default values as mandated/permitted by the applied methodology. The values used for calculation of GHG emission reductions have been thoroughly checked by the verification team and was found appropriate and correct.

The full set of emission reductions calculation are provided in emission reduction spread sheet/2/. ER_y realized during the monitoring period is 266,880 tCO₂e which are 30.08% lower than the estimated emission reduction i.e., 385,674 tCO₂e for the current monitoring period due to $B_{y=1,new,i,survey}$ value considered during the validation was 1.83 tonnes/device/year, whereas the actual value during 1st MP verification was found to be 0.7162(=0.7439*6.7/7) tonnes/device/year.

The verification team has checked and confirmed the emission reduction calculations in the spreadsheet and found to be accurate. The monitoring report/1/ is supported by emission reduction spreadsheet/2/. The consistency and formula were verified and found to be accurate.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

When verifying the reported emission reduction, VKU ensured that there was a clear audit trail that contained the evidence and records that validate the stated figures. All source documents that form the basis for assumptions and other information underlying the GHG data are shown above.

When assessing the audit trails, VKU also examined:

1. whether sufficient evidence was available, both in terms of frequency and in covering the full monitoring period
2. the source and nature of the evidence
3. if comparable information was available from sources other than that used in the monitoring report/1/, VKU cross-checked the monitoring report against the other sources to confirm that the stated figures were correct. The sources and the data referenced are shown in Section 2.2 above.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan. No significant, lack of evidence and missing data were detected during verification. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures.

Additionally, according to the methodology that was used, VKU determined that the data gathering system complied with the monitoring plan's requirements.

For the project activity, proper data management, including data collection and aggregation, is being practised.

The site's monitoring staff is well-trained and adheres to repeatable procedures. As a result, they are qualified to complete the necessary jobs accurately.

4.6 Non-Permanence Risk Analysis

The project activity was operational throughout the monitoring period. There is no non-permanence risk rating determined by the project proponent during the current monitoring period from 16-September-2022 to 31-March-2023 (both dates included).

5 VERIFICATION OPINION

VKU Certification Pvt. Ltd. has performed fourth verification of the emission reductions reported for the project activity “Installation of high efficiency wood burning cookstoves in Zimbabwe”, VCS Registry Project ID 2341, for the monitoring period 16-September-2022 to 31-March-2023 (both dates included), with regard to the relevant requirements for VCS activities. The project proponents of the “Installation of high efficiency wood burning cookstoves in Zimbabwe” project is responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered PD version 02.1 of 22-February-2022/14/. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.

It is the responsibility of VKU to express an independent verification opinion about the project’s conformity with the requirements of VCS Standard version 4.4/4/ and GHG program applied, on the reported greenhouse gas emission reductions from the project.

Based on documented evidence and confirmed by an on-site assessment, VKU can confirm that:

- the project has been implemented and operated as per the registered VCS-PD/14/;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.4 requirements/4/;
- the monitoring is in place as per the applied baseline and monitoring methodology/6/;
- the monitoring plan in the registered VCS-PD/14/ is as per the applied baseline and monitoring methodology.

VKU Certification’s Verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. VKU Certification planned and performed the verification by obtaining evidence and other information and explanations that VKU Certification considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated. It is VKU’s opinion that the GHG emission reduction stated in the monitoring report version 2.1 of 24-August-2024/1/ for the “Installation of high efficiency wood burning cookstoves in Zimbabwe” for the monitoring period 16-September-2022 to 31-March-2023 (both dates included) are fairly stated.

The GHG emission reductions are calculated on the basis of approved methodology VMR0006 version 1.1/6/ and the monitoring plan included in the registered Project Description Document, version 02.1 of 22-February-2022/14/.

Hence VKU is able to certify that the emission reduction from the project during the monitoring period 16-September-2022 to 31-March-2023 (both dates included) amounts to 266,880 tCO₂e. VKU is an approved ISO 14064-3:2019 accredited Validation/Verification Body 6. The assessment team meticulously followed the prescribed steps outlined in the standard, starting with Strategic Analysis, followed by Risk Assessment and the development of an Evidence Gathering plan. Subsequently, the team diligently executed the planned activities to collect the necessary evidence.

To ensure comprehensive evaluation, an Audit plan was prepared, and an Onsite visit was conducted accordingly. Onsite activities were carried out in accordance with the pre-established Evidence Gathering plan. Following the completion of the onsite activities, VKU proceeded with the post-site evaluation, which involved scrutinizing supporting documents, Monitoring Reports (MR), and Emission Reports (ER). The project then underwent Independent Technical review. Adhering to the stipulated requirements, the assessment team formed a positive opinion based on their findings.

The following table shows the Net Emission Reductions from 16-September-2022 to 31-March-2023 (both dates included) under fixed crediting period from 27-January-2021 to 26-January-2031 (both dates included).

Verification period: From 16-September-2022 to 31-March-2023 (both dates included)

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e) ⁷	Net emission reductions or removals (tCO ₂ e)	GHG
2022 (16-September-2022 to 31-December-2022)	145,250	0	0	145,250	
2023	121,630	0	0	121,630	

⁶ VKU is not accredited to validation at the time of submission of this project activity. (<https://verra.org/validation-verification/vku-certification-pvt-ltd/#vcs>)

⁷ The leakage is considered using the factor 0.95 while calculating baseline emission in-line with the registered PD and hence leakage amount is taken as zero in the table.

(01-January-2023 to 31-March-2023)				
Total	266,880	0	0	266,880

The estimated ex-ante GHG emission reductions and removals and the achieved emission are stated below:

Year	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
2022 (16-September-2022 to 31-December-2022)	209,478	145,250	11.43%	Actual emission reduction achieved are lower than r than the value estimated in ex-ante calculation, this is due to $B_{y=1,new,i,survey}$ value considered during the validation was 1.83 tonnes/device/year, whereas the actual value during 1 st MP verification was found to be $0.7162(=0.7439*6.7/7)$ tonnes/device/year.
2023 (01-January-2023 to 31-March-2023)	176,196	121,630	10.93%	
Total	385,674	266,880	-30.08%	

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
BEF	Baseline Emission Factor
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CQC	C-Quest Capital SGS Stoves Private Limited
DNA	Designated National Authority
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
HH	Household
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NA	Not Applicable
OSV	On Site Visit
PAI	Project Activity Instances
PD	Project Description
PP(s)	Project Proponent(s)

QA/QC	Quality Assurance /Quality Check
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VCS	Verified Carbon Standard
VKU	VKU Certification Ltd.
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX B: SAMPLING SURVEY SHEET

QUESTIONNAIRE

S.No.	Questions
1.	On which date survey was conducted?
2.	What was the time of the survey?
3.	Stove- info: - a) What is the code-number for stove ID 1 & 2? b) What is the model of stove? c) Location where the survey was conducted?
4.	What are details of the respondent- a) Name b) Age c) Registered user or not d) In case registered user is not available respondent's relationship with registered user e) Contact details
5.	Identification of stove status- a) Status of the stove 1- found or not b) Status of the stove 2- found or not c) Registration card for stove 1 d) Registration card for stove 2 e) Whether the data of stove 1 matched? f) Whether the data of stove 2 matched? g) Whether the stove 1 is operational or not? h) Whether the stove 2 is operational or not?
6.	What is the frequency of stove usage by households?
7.	Whether any baseline stoves are used or not? If yes, how many baselines stoves are there?
8.	What is the feedback received from the users? (Both positive/ negative)
9.	What are the benefits observed by users after using these stoves?

APPENDIX C: AUDIT FINDINGS

CAR: 03 Corrective Action Request

CL: 03 Clarification Request

FAR:00 Forward Action Request

Type		Date	22-May-2023	
CAR#01		Reference	Section of 1.1 and 4.3 of MR	
Description of the Non-Conformance				
1. Section 1.1 of MR: • PP is requested to update futuristic sentence throughout the MR. • PP is requested to clarify behind no distribution of ICS during current monitoring period.				
1 st Response from PP		Date	26-May-2023	
• PP has revised the sentence in the section 1.1 of MR v01.1. • The installation of new stoves under the project is solely determined by the project's investor. In accordance with the investor's decision, new stoves were not installed during the current monitoring period.				
1 st Assessment by Audit Team	Status	Open/Closed	Date	08-June-2023
1. Section 1.1 of MR: • Assessment team verified that PP has not update futuristic sentence throughout the MR. so, PP is requested to update the same. #OPEN • Assessment team verified that PP has clarified behind the reason of no distribution of ICS during current monitoring period. Hence Accepted #CLOSED				
CAR#01 Closed				

Type	Date	03-July-2023
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CAR#02	Reference	Section of 3.2.2 and 5.4 of MR
Description of the Non-Conformance		
1. Section 3.2.2 of MR: The PP does not confirm that the following requirements as per VCS MRT V4.2 requirement “Identify whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario and provide an explanation of the outcome. Describe and report on any project description deviations applied in previous monitoring reports.” 2. Section 5.4 of MR: PP does not confirm the impact of additionality and project scale due to higher GHG emission reductions and removals achieve during current monitoring period.		
1 st Response from PP	Date	
1. PP has updated the session 3.2.2 of MR as per the VCS MR template v4.2. 2. This project uses activity method for the demonstration of additionality, Step 1. Regulatory surplus. The project installs the ICS at zero cost to the household and has no other source of revenue other than the sale of GHG credits. Step 2. Positive List. The project installs the ICS at zero cost to the household and has no other source of revenue other than the sale of GHG credits. The project is not implemented as part of government schemes or supported by multilateral funds. There is no impact on additionality due to GHG emission reduction of current monitoring period. Also, PP would like to clarify that the expected annual energy saving for each project activity instance in this monitoring period is approximately 0.0100 GWh_{th}/y thus no project activity instance exceeds the applicable limit, which is 180 GWh_{th}/y.		
1 st Assessment by Audit Team	Status	Closed
	Date	24-July-2023
1. Section 3.2.2 of MR: PP has updated the section of MR explaining there has been no impact due to the deviation. Hence accepted. Closed 2. Section 5.4 of MR: PP has confirmed that there has been no impact on additionality due to higher GHG emission reductions. Hence, accepted. Closed		
CAR#02 Closed		

Type	Date	04-October-2023
CAR#03	Reference	Section 1 and 3.3 of MR

Description of the Non-Conformance				
1. Section 1 of MR: As per Verra’s comments received in PRR, the format of the monitoring report is not in line with the MR template version 4.2. The numbering is first section of the MR: Project Details and Summary Description. 2.Section 3.3 of MR: As per Verra’s comments received in PRR, in section 3.3 of MR, information is missing on new project activity instances included in grouped project activity during the current monitoring period. 3.Section 3.3 of MR: As per Verra’s comments received in PRR, it is not clear how the new project activity instances fulfil the additionality criteria, specifically: a) The project installs the ICS at zero cost to the household and has no other source of revenue other than the sale of GHG credits. b) The project is not implemented as part of government schemes or supported by multilateral funds. PP to elaborate on the same.				
1 st Response from PP			Date	09-October-2023
1. PP has corrected the numbering section 1(headings) as per VCS MR template version 4.2. 2. PP would like to clarify that no new project activity instances were added during the current monitoring period, and Section 3.3 has been updated accordingly. PP also demonstrated how all instances of the project activity included under this grouped project meets the eligibility criteria section as per the MR template 4.2. 3. PP has demonstrated how all instance of the project activity(s) included under this grouped project fulfill the additionality criteria in the section 3.3.				
1 st Assessment by Audit Team	Status	Closed	Date	19-October-2023
Section 1 of MR: Assessment team confirms the format of the monitoring report has been updated in line with the MR template version 4.2. Hence accepted. Closed 2.Section 3.3 of MR: Assessment team confirms section 3.3 of MR has been updated on project activity instances included in grouped project activity. Hence accepted. Closed 3.Section 3.3 of MR: Assessment team confirms PP has updated relevant section of MR to include how- a) The project installs the ICS at zero cost to the household and has no other source of revenue other than the sale of GHG credits. b) The project is not implemented as part of government schemes or supported by multilateral funds. Hence, accepted. CAR#03 Closed				

Type	Date	22-May-2023
CL#01	Reference	Section of 1.9, 1.10, 1.11, 2.2, and 4.3 of MR
Description of the Non-Conformance		
3. Section 1.1 of MR: PP to clarify the reason for not conducting monitoring survey during the current monitoring period. 4. Section 1.9 and 1.10 of MR: Declaration Letter by C-Quest Capital SGS Stoves Private Limited regarding not availing any other form of Environmental Credit, no double counting of Emission reduction occurred, non-participation in other emission trading schemes. and other binding limits. 5. Section 1.11 of MR: • PP is requested to provide supporting document of non-formal educational and training on issue related to climate change. • PP is requested to provide employment record. • PP is requested to provide supporting document which supports the assessment that the installed cookstove releases less amount of fine particulate matter (PM2.5) and improving overall health outcomes. 6. Section 2.2 of MR: • PP is requested to provide grievance register for the current monitoring period. 7. Section 3.1 of MR: PP to clarify the implementation status of the project specifically the region where the project has so far been implemented. 8. Section 4.3 of MR: • PP is requested to provide training record for quality assurance and quality control. • PP is requested to clarify how PP ensures the proper maintenance of stove? • PP is requested to explain the value of total sample selected.		
1 st Response from PP	Date	26-May-2023

1. PP conducted most recent monitoring survey from 14-November to 24-November 2022, which was just five months ago. Since then, PP has not installed any new stoves. As the number of TLC rocket stoves remains the same as the previous monitoring period, PP has made the decision not to conduct another monitoring survey. This decision aligns with our registered project document, where PP specified that the frequency of monitoring the cookstoves in operational should be at least once a year. Additionally, the methodology VMR0006 suggests (page number 15, section 9.2) conducting a monitoring survey at least once every two years.

Further PP has submitted the stove registration database of monitoring period 3(01-March-2022 to 15-September-2022) and monitoring period 4(16-September-2022 to 31-March-2023) to VVB to verify the number of cookstoves.

2. PP has submitted the declaration letter by C-Quest Capital SGS Stoves Private Limited regarding not availing any other form of Environmental Credit, no double counting of Emission reduction occurred, non-participation in other emission trading schemes, and other binding limits.
3. PP has submitted the attendance sheet and photographs of training programme conducted.

PP has submitted the list of employees working for this project.

PP has submitted the document (CQC Stove and Jet-Flame Interim Report 3.31.22) to VVB.

4. PP has submitted the grievance register to the VVB.
5. PP has installed 191,974 stoves in Zimbabwe, under this project. PP has updated the section 3.1 of the monitoring report, detailing the province-wise implementation status of the TLC-CQC Rocket stove in Zimbabwe. To verify the accuracy of this information, VVB can review the database spreadsheet named "stove registration database Zimbabwe_2341-MP4," which has been submitted by PP. By cross-checking the data in the report with the information in the database, VVB can confirm the current implementation status of the stove in each province.

6

- PP has submitted the training records (photographs and attendance sheet) to VVB.

- PP has a procedure for internal auditing called spot-checking, where field staff randomly selects households to ensure proper functioning of the project stoves throughout the project lifetime and to ensure that the project stoves continue to work as efficient as specified by the manufacturer. Field staff of project proponent randomly select units included in the database and visit or contact the stove owners to cross-check the information on the database with the factual evidence in the field. Any inconsistencies found (e.g., change in the address of a user) gets updated on the database, and in case, ICS are found to be no longer in use, they get clearly marked as such and is excluded from emission reductions calculations. Spot check report for the current monitoring period being submitted to VVB.
- PP has calculated the sample size considering the confidence level of 90% and precision 10% with simple random sampling technique. It has considered an expected proportion (p) of 85%, This calculation gives a sample size of 69 including 30% non- response. For more detailed information on the sample size calculation, PP has submitted the document titled "VCS_2341_Zimbabwe_Sampling Survey_MP4_MP3" to the VVB.

1stAssessment by Audit Team	Status	Open/Closed	Date	08-June-2023
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1. **Section 1.1 of MR:** Assessment team verified that PP has not conducted monitoring survey for this monitoring period as per reference of project document section 5.2 and methodology VMR0006 section 9.2 which was mentioned that the frequency of monitoring the cookstoves in operational should be at least once a year. Hence accepted #CLOSED
2. **Section 1.9 and 1.10 of MR:** Assessment team verified that PP has submitted the declaration certificate but monitoring date is not mentioned in this declaration. #OPEN
3. **Section 1.11 of MR:**
4. **Section 2.2 of MR:** Assessment team verified that PP has provided grievance register sheet. Hence accepted #CLOSED
5. **Section 3.1 of MR:** Assessment team verified that PP has mentioned the region wise implementation but PP is requested to explain why less distribution in Harare region of Zimbabwe. #OPEN
6. **Section 4.3 of MR:**

- Assessment team verified that PP has submitted the photographs but not found attendance sheet so PP is requested for the same. #OPEN - Assessment team verified that PP has clarified the maintenance of cookstove in proper way. Hence accepted #CLOSED - Assessment team verified that PP has not corrected the calculation of the total sample selected short listed. #OPEN				
Type		Date	14-July-2023	
CL#02		Reference	Section of 1 MR	
Description of the Non-Conformance				
1.Section 1.1 of MR: PP is requested to clarify on the validity of 3rd Monitoring period survey. 2.Section 1.7 of MR: PP to submit KML file in supporting documents. 3. Section 1.11 of MR: PP is requested to clarify whether the SDGs achieved in this project contribute towards "nationally stated sustainable development priorities" of Zimbabwe as per the MR template. 4.Section 4.2 of MR: By=1,new,i,j,survey parameter was determined in first MP through monitoring survey. But it is not clear how PP took into account the stove usage rate/Improved Cook Stove (ICS) for calculating emissions during this monitoring period.				
1 st Response from PP		Date		
1. According to the applied methodology VMR0006 (page number 15, section 9.2), it is recommended to conduct a monitoring survey at least once every two years. PP recently conducted a monitoring survey from 14-November-2022 to 24-November-2022. As there have been no new stove installations since then, the database remains unchanged, and PP can utilize the results from the previous monitoring survey. 2. PP has submitted the KML file to VVB. 3. PP has added justification on the SDGs in the relevant section of MR. 4. PP has revised the calculation of ER based on the rate of stove usage, which is obtained from the previous monitoring survey. furthermore, the values in the MR have been adjusted accordingly.				
1 st Assessment by Audit Team	Status	Closed	Date	24-July-2023
1.Section 1.1 of MR: Assessment team confirms PP has confirmed the validity of the monitoring survey. Hence, accepted. Closed. 2. Section 1.7 of MR: Assessment team confirms PP has submitted the KML file. Hence, accepted. Closed.				

3. Section 1.11 of MR: Assessment team confirms PP has clarified on the SDG contributions. Hence, accepted. Closed.

4. Section 4.2 of MR: Assessment team confirms PP has accounted stove usage rate. ER sheet has been updated and found appropriate. Hence, accepted. Closed.

CL#02 Closed

Type	Date	04-October-2023					
CL#03	Reference	MR					
Description of the Non-Conformance							
1. As per Verra's comments received in PRR, PP to clarify how the results from sampling survey done in November 2022 has been used for arriving at "proportion of installed ICS operating". 2. As per Verra's comments received in PRR, PP to clarify how baseline cookstoves have been completely decommissioned and only improved cookstoves are exclusively used in the project households.							
1 st Response from PP	Date	09-October-2023					
1. According to the applied methodology VMR0006--"Methodology for Installation of High Efficiency Firewood Cookstoves" (Version 1.1) suggests (page number 15, section 9.2), to conduct a monitoring survey at least once every two years. PP recently conducted a monitoring survey from 14-November-2022 to 24-November-2022. As there have been no new stove installations since then, the database remains unchanged, PP used the same results from the previous monitoring survey. This information has included in the section 4.3 of MR v01.4. From the same survey, it was found that the usage rate of ICS was 6.74/week., and $B_{y=1,new,i,survey}$ value calculated accordingly for this monitoring period. <table border="1"> <tr> <td rowspan="2">$B_{y=1,new,i,survey}$</td><td>Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j (Calculated from results of sampling survey conducted during 1st Monitoring survey)</td><td>1.0758 Tonnes / device/ year</td></tr> <tr> <td>Considering the actual usage rate of ICS i.e., 6.74 days/week being captured during the recent monitoring survey (Calculated from results of recent sampling survey conducted)</td><td>1.0359 Tonnes / device/ year</td></tr> </table> PP would like to use the value (1.0359 tonnes/device/year) of the parameter "$B_{y=1,new,i,survey}$" conservatively in ER spreadsheet and monitoring report for the current monitoring period.			$B_{y=1,new,i,survey}$	Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j (Calculated from results of sampling survey conducted during 1st Monitoring survey)	1.0758 Tonnes / device/ year	Considering the actual usage rate of ICS i.e., 6.74 days/week being captured during the recent monitoring survey (Calculated from results of recent sampling survey conducted)	1.0359 Tonnes / device/ year
$B_{y=1,new,i,survey}$	Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j (Calculated from results of sampling survey conducted during 1st Monitoring survey)	1.0758 Tonnes / device/ year					
	Considering the actual usage rate of ICS i.e., 6.74 days/week being captured during the recent monitoring survey (Calculated from results of recent sampling survey conducted)	1.0359 Tonnes / device/ year					

2. PP would like to clarify that PP has captured the following information during the monitoring survey, and mentioned the same in the 'Survey result' worksheet in the 'VCS_2341_Zimbabwe_Sampling Survey_MP4'.

- The cookstoves distributed under the project are being used.
- The project stoves are operational and in good condition.
- Baseline stoves, if any are being used along with project stoves.

During the monitoring survey, PP found that all stoves were operational and in good condition, and households were using the stoves (2 ICS/household). Additionally, PP checked baseline stoves to see if any were being used alongside project stoves, but no households were found using baseline stoves. This information has now been updated in Section 4.3 of MR v1.4, in lines with Section 9.3 of the applied methodology VMR0006 v1.1.

1stAssessment by Audit Team	Status	Closed	Date	19-October-2023
1. Assessment team confirms PP has clarified how the results from sampling survey done in November 2022 have been used for arriving at "proportion of installed ICS operating". PP has updated the relevant section of MR. Hence accepted. Closed 2. Assessment team confirms PP has clarified how baseline cookstoves have been completely decommissioned and only improved cookstoves are exclusively used in the project households and updated relevant section of MR. Hence accepted. Closed CL#03 Closed				

Type	Date	08-August-2024
CL#04	Reference	Section of Ver protocol: MR & ER
Description of the Non Conformance		
1. According to the registered project description (PD) and monitoring report (MR), the parameter 'B_{y=1,new,i,j,survey}', is determined <i>ex-post</i> after one year of stove operation and fixed for the rest of the crediting period. However, the monitoring reports does not transparently outline the process and methods used to determine this value. 2. The MR does not provide information about whether the survey conducted meets the statistical requirements of 90/10 or 95/10 confidence and precision, and whether it is representative of different types of cookstoves distributed/strata, as per the Standard for Sampling and surveys for CDM project activities and programme of activities. 3. Section 4.3 of the MR states that this parameter was determined through measurement campaigns at representative households. However, assessed it is not stated as to how		

the monitoring procedures applied align with VMR0006, v1.1 and how the conditions specified under 'B_{y=1,new,i,j,survey}' parameter table (refer page 17-18 of VMR0006, v1.1) were satisfied. 4. Sections 4.2 and 5.3 of the MR report have updated values of B_{y=1,new,i,j,survey} parameter in each monitoring period without sufficient description and justification of relevant sampling and calculations methods.		
1stResponse from PP	Date	06-September-2024
1. During the monitoring survey, field staff asked the user to make a pile for the total firewood required for cooking in a day for all the stoves available in his/her house and weighted the same with the weigh scales. Further user was asked to extract and make the piles for the wood required for the project stove 1 and project stove 2 separately from that pile and weigh both the piles. Same been recorded and data transferred to excel spreadsheet. Therefore, firewood consumed for each project stove can be distinguished clearly. Proper training has been provided to the monitoring personnel before conducting the onsite monitoring survey. For the subsequent MPs after first monitoring period, the parameter B_{y=1,new,i,j,survey} was already established and was not separately verified during these monitoring periods. Considering the applied methodology VMR0006 V1.1 according to which this parameter is "Determined in the first year of project implementation", the assessment would not change. 2. Due to the large number of ICS envisioned to be distributed in the project activity, it is not economically feasible to monitor each individual ICS unit distributed. Therefore, representative sampling was undertaken that is designed in line with the requirements of the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities version 09.0. Simple random sampling was used for all monitoring parameters in accordance with the Sampling Plan of section 5.3 of the VCS-PD. The objective was to obtain reliable and unbiased estimates of the monitoring parameters. Reliability levels were set at 90% confidence and 10% precision as per VMR 0006 version 1.1. (Sec 4.3 of monitoring plan in MR) Under the project activity, only one type of ICS being deployed with in the geographical boundary of Republic of Zimbabwe (host country), there by a single homogeneous population (Primary Sampling Unit, as per VCS-PD) was considered for both parameters (number of stoves in operation & quantity of woody biomass used by improved cookstoves). 3. B_{y=1,new,i,j,survey}, determined in the first year of the introduction of the devices (e.g., during the first year of the crediting period, y=1) through measurement campaigns at representative households. Calibration of weighing scales used for measuring the fuelwood was done in house		

before start of monitoring survey. In order to ensure completeness and accuracy of monitoring information, electronic database is operated and maintained for the project activity.

As the parameter is determined through measurement campaigns and not based on sample surveys to estimate this parameter, that are solely based on questionnaires or interviews, hence the conditions specified under 'B_{y=1,new,i,j,survey}' parameter table (refer page 17-18 of VMR0006, v1.1) were not applicable.

4. As per the VERRA 6.1 review findings received for the project activity MP01, the B_{y=1,new,i,j,survey} has been updated and same has been applied for all subsequent MPs as per PP response at item 1 of this CL. (Calculations w.r.t the ex-post determined B_{y=1,new,i,j,survey} value provided to the verifying VVB.

1stAssessment by Audit Team	Status	Closed	Date	05-October-2024
1. PP has provided the procedure for the measurement of parameter 'B_{y=1,new,i,j,survey}', in the response and clarified it clearly as per the procedure followed during the first year of implementation and MP-1 reports. The current MP-MR states the source of value of the parameter clearly and it is as per the registered VCS PD and applied methodology VMR0006 V1.1 according to which this parameter is "Determined in the first year of project implementation". PP has also revised the value of parameter 'B_{y=1,new,i,j,survey}' in revised MR according to the "Verra s6.10operations MP1 2351" sheet submitted where raw ground data of all selected samples is provided with reliability check for parameter 'B_{y=1,new,i,j,survey}' which is assessed and found consistent hence the value of 'B_{y=1,new,i,j,survey}' is updated in revised FVR with assessment. 2. VVB has verified the MR submitted by PP and section 4.3 of MR states the MR is representative of the requirements as per the Standard for Sampling and surveys for CDM project activities and programme of activities. VVB assessed the same and found it to be in line with the standard requirements. 3. As verified from the applied methodology by VVB that the value of B_{y=1,new,i,j,survey}, was determined in the first year of the introduction of the devices (e.g., during the first year of the crediting period, y=1) through measurement campaigns at representative households. PP has used the measurement campaigns at representative households for determination of this parameter which is as per the methodology version 1.1 applicable and registered VCS PD. Hence VVB confirms that the parameter is appropriately calculated and the conditions specified under 'B_{y=1,new,i,j,survey}' parameter table (refer page 17-18 of VMR0006, v1.1) were not applicable. 4. The values have been updated for all Monitoring periods in all project documents. Required supporting documentation has been submitted and found appropriate for the updated value to be used. CL#04 Closed				

Type	Date	08-August-2024
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CL#05	Reference	Section of Ver protocol: MR & ER		
Description of the Non Conformance				
1. The proportion of operational cookstoves within the monitoring period(s) is reported to be 100% This is likely unrealistic, given the minimal probability of 100% stove operation without breakages and abandonment over their lifetime. The project documentation does not transparently provide the measures put in place for on-time stove maintenance support for repairs and replacement. 2. The monitoring report(s) does not provide sufficient information on how the samples for determining stoves in operation were selected and the sampling process used and whether the minimum sample size was met for each respective monitoring period.				
1 st Response from PP	Date	06-September-2024		
1. TLC-CQC rocket cookstoves are built on-site at the end user premises as per the design specification. This will be achieved using brick moulds of specified dimensions to make bricks locally that are suitable for the stove construction. PP has provided the metal parts to implementing partner /end user for the installation and registration of ICS. End User households were also explained the significance of non-usage in terms of loss of emission reductions. Furthermore, TLC stove being a clay and brick stove which can be repaired using a mixture of clay and water on a regular basis by end user. PP ensures the Implementation Partner/ households and village members are aware & appropriately trained to construct, maintain and repair the project stoves. End users are provided with information/details to communicate with IP/PP in case of further assistance/support required in repairing & maintenance of project stoves. The proportion of operational cookstoves within the monitoring period(s) is reported to be 100%.However, as per the stove champion follow up survey conducted in MP3 , stoves in operation was 95.91% and as per the stove champion follow up survey conducted in MP4, stoves in operation was 95.63%. PP has used the lower stove operation rate (95.63%) as per stove champion data has achieved 0.28% precision and is within the required precision (90/10). As per the secondary data of other projects registered under carbon credit mechanism the average stoves in operation percentage was 91.70%. PP has considered as minimum number of stoves in operation as 90.0% on a conserve basis in ER estimations (for all MPs). 2. Sampling standard “sampling and surveys for CDM project activities and programme of activities” version 9 was used for determining the sample size to achieve 90/10 confidence precision. The actual sample size for the parameter stove in operation (stove champion follow up survey) was higher than the minimum sample size required as per the sampling plan defined in the registered VCS PD.				
1 st Assessment by Audit Team	Status	Closed	Date	05-October-2024

1. As per revised MR and ER sheet submitted to VVB proportion of operational cookstoves within the monitoring period(s) is reported as 90%. PP has provided the background evidences such as

- The **stove champion follow up survey** conducted in MP3 & MP4, found stoves in operation as 95.91% and 95.63% for MP3 & MP4.
- The **secondary data** of other projects registered under different carbon credit mechanism in the project region, stoves in operation was found as 91.70%.

All these sources of data were assessed and found to be correct. However, PP has considered the minimum number of ICS in operation as 90% on a conservative basis in ER estimations (for all MPs) which is more conservative and found acceptable by VVB.

2. MRs section 4.3 states the process in brief that is followed for sampling and sampling survey sheets clearly shows the calculation of the applied approach and 90/10 confidence precision is used which is found to be correct by VVB in the documents submitted. However, additional stove champion survey in MP3 and MP4 conducted also confirms the stove in operation.

CL#05 Closed

Type		Date	DD/MM/YYYY
FAR		Reference	Section of VAL/VER
Description of the Non-Conformance			
1stResponse from PP		Date	DD/MM/YYYY
1stAssessment by Audit Team	Status	Open/Closed	Date
			DD/MM/YYYY

APPENDIX D: COMPETENCE STATEMENTS

Team Leader:



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Vivek Kumar Ahirwar
Nationality	Indian
Countries of Experience	India, Madagascar, Thailand, Indonesia, Bangladesh, Nepal, Ghana, Uganda, Kenya etc
Education Qualification	B.E. (Mechanical Engineering) M. Tech (Energy Management)
Year of Experience	12 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation TA 1.2 - Renewables TA 2.1 - Energy Distribution TA 3.1 - Energy Demand

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (1.1, 1.2, 2.1, 3.1)	YES
Financial Expert	YES

Reviewed by	Vandana Gupta (Quality Manager)	Date	28/02/2023
Approved by	Dr. Vikas Kumar Aharwal (Director)	Date	04/03/2023

Local Expert (Republic of Zimbabwe):
COMPETENCE STATEMENT

Name	Mr. Munatsi Chuma
Nationality	Zimbabwean
Countries of Experience	Republic of Zimbabwe
Education Qualification	1. Bachelor of Engineering in Industrial and Manufacturing Engineering. 2. Masters in manufacturing systems and Operations Management. 3. Certificate in Principles of Mining.
Year of Experience	3+ Years
Area of Expertise	Industrial & Manufacturing Engineering & Mining
Eligible Sectoral Scope	NA

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	YES
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	21/01/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	21/01/2023

Validator/Verifier:



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VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Deepali Sharma
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (Environmental Science) M.Sc. (Environmental Science)
Year of Experience	2 years as Intern 9 months as Employee
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	29.03.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	29.03.2023

Technical Reviewer:



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VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Abhishek Kumar Srivastava
Nationality	India
Countries of Experience	India, Uganda
Education Qualification	M. Tech- Energy Management M. Sc. -Physics
Year of Experience	14 Years
Area of Expertise	Climate Change & Environment / Industry
Eligible Sectoral Scope	1. GHG emission reductions from fuel combustion

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (1.1, 1.2, 3.1,)	YES
Financial Expert	YES

Reviewed by	Vandana Gupta (Quality Manager)	Date	25/02/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	25/02/2023