



# INSTALLATION OF HIGH EFFICIENCY WOOD BURNING COOKSTOVES IN KENYA

Document Prepared By:



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### Summary:

VKU Certification Pvt. Ltd. (herein after referred as VKU) was commissioned by C-Quest Capital SGS Stoves Asia Limited (herein after referred as CQC) to verify the greenhouse gas emission reductions reported for the grouped project activity “**Installation of high efficiency wood burning cookstoves in Kenya**” (**VCS 2349**), which involves distribution of cookstoves. Until current monitoring period, CQC has distributed **105,546** cookstoves. The current monitoring period covers the period from **16-September-2022 to 31-March-2023** (Inclusive of both dates) under fixed crediting period of 10 years from **06-October-2020 to 05-October-2030** (Inclusive of both dates) with regard to the relevant requirements for VCS Standard<sup>1</sup>; Version 4.4 & Version 4.5/5/.

<sup>1</sup> Both the standards were referred, Version 4.5 section effective immediately were referred as per this document published- <https://verra.org/wp-content/uploads/2023/08/August-2023-Overview-of-VCS-Program-Updates-Effective-Dates-12-Sept-2023.pdf>

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

The verification scope of the grouped project is:

- To verify that the project is implemented as described in the registered VCS PD/3/.
- To assess the project's compliance with other relevant rules including the host country legislation (Republic of Kenya).
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting/19/
- 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

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Program Guide version 4.4/4/, VCS Standard Version 4.4 & Version 4.5/5/, VCS Validation and Verification Manual version 3.2/22/, CDM Validation and Verification Standard 3.0/25/ and applying standard auditing techniques.

VKU followed the rule-based approach to perform this verification. During the course of verification, related to operation, monitoring and GHG emission reduction calculation of the VCS grouped project activity in relation to all relevant VCS requirements for the grouped project activity and the applied baseline and monitoring methodology and a total of **10** findings were raised, which includes: **04 Corrective Action Requests (CARs); 06 Clarification Requests (CLs) and 00 Forward Action Request (FAR)**. All the findings were raised and successfully resolved by the PP. The same has been discussed in **Appendix C** of this verification report.

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 1.1/7/ and Tool "Calculation of the fraction of non-renewable biomass"- Version 3.0 /28/ and the monitoring plan included in the registered VCS PD Version 4.0 dated 21-October-2022/3/.

In conclusion, it is VKU's opinion that the grouped project activity "**Installation of high efficiency wood burning cookstoves in Kenya**" VCS ID 2349, 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 1.1/7/. 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 grouped project during the current monitoring period from **16-September-2022 to 31-March-2023** (Inclusive of both dates) under fixed 10-year crediting period from 06-October-2020 to 05-October-2030 (Inclusive of both dates) amounts to **130,982 tCO<sub>2e</sub>**.

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# 1 INTRODUCTION

## 1.1 Objective

C-Quest Capital SGS Stoves Asia Limited (herein after referred as CQC) commissioned VKU Certification (herein after referred as VKU) to carry out the fourth verification of the grouped project “**Installation of high efficiency wood burning cookstoves in Kenya**” (VCS 2349) for the current monitoring period from **16-September-2022 to 31-March-2023** (Inclusive of both dates) under 10-year fixed crediting period from 06-October-2020 to 05-October-2030 (Inclusive of both dates).

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

- An independent evaluation of grouped project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.4/4/, VCS standard Version 4.4 & version 4.5/5/ and GHG program applied, on the basis of the registered VCS project description document version 4.0 dated 21-October-2022/3/.
- The grouped project activity has been implemented and operating as per the registered VCS PD/3/ and that all physical features (technology, project equipment, and monitoring) 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 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.

The verification process is conducted with the goal of smooth execution and complete operational effectiveness of the monitoring system, assuring the precise generation of Verified Carbon Units (VCUs) without encountering any double counting. Furthermore, a thorough examination of the monitoring records and emissions reduction calculations was performed to ensure the data's comprehensiveness, coherence, transparency, and absence of significant errors or omissions, all in pursuit of establishing the trustworthiness and credibility of the data.

## 1.2 Scope and Criteria

The scope of this verification is the independent, objective review and ex-post determination of the monitored reductions in GHG emissions from the **“Installation of high efficiency wood burning cookstoves in Kenya” (VCS 2349)** in Republic of Kenya. The verification of this project was based on the validated & registered VCS PD/3/ and monitoring report/1/ along with supporting documents submitted by the project proponent to the VKU Assessment team. The documents thus submitted to the VKU Assessment team were reviewed against the following guidance & protocols:

- ✓ VCS Programme Guide Version 4.4 /4/
- ✓ VCS Standard Version 4.4 & Version 4.5 /5/
- ✓ VCS Program Definitions Version 4.4 /26/
- ✓ VCS Validation and Verification manual version 3.2/22/
- ✓ VCS: VMR0006-Methodology for Installation of High Efficiency Firewood Cookstoves V1.1/7/
- ✓ CDM: Tool 30- “Calculation of the fraction of non-renewable biomass” version 3.0/28/
- ✓ CDM Standard: Validation and Verification Standard for Project Activities version 3.0/25/
- ✓ CDM: Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities, Version 4.0/11/
- ✓ CDM: Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 9.0 /12/

### The steps involved are as follows:

- To verify that the grouped project is implemented as described in the registered VCS PD/3/.
- To assess the grouped project’s compliance with other relevant rules including the host country legislation (Republic of Kenya).
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting/19/
- 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 verification method and criteria used for verification consisted of the following phases:

- Desk review of the MR/1/, ER/2/, Sampling survey sheet/20/ VCS PD/3/, and other supporting documents listed in **Table No.-04 below**
- Preparation of sampling plan by VKU assessment team by following the CDM sampling guideline/11/ and CDM sampling standard/12/. The assessment team has performed acceptance sampling by following the guideline and standard stated above as per the sampling survey sheet submitted by PP/20/.
- Onsite interviews with field staff and the local stakeholders of selected ICS (Improved TLC-CQC stoves) samples /30/;
- Resolution of outstanding issues by PP
- Completeness check and issuance of final verification report and applicable VCS Verification Deed of Representation.

Verification is not meant to provide any consultancy towards 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** as per section **04 clause 4.1.2 and clause 4.1.10 (1) of the VCS Standard version 4.5/5/**.

The verification report is based on the Monitoring report /1/, registered VCS PD /3/ and supporting documents /15//17//18//19//20//32//34//35//37//38//39/ made available to the assessment team and further information is also collected through performing interviews/30/ and site visit/21/.

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 (1%), as required by section 4.1.10 of the VCS Standard version 4.5/5/ and in compliance with the section 2.3 of the VCS Validation and Verification Manual; Version 3.2/22/. As the grouped project is a large project, the threshold shall be one percent as per Section 4.1.10 of VCS Standard 4.5/5/. The materiality of the project activity based on actual emission reductions achieved is **1% of 130,982 tCO<sub>2</sub>e** which is equal to **1,309.82 tCO<sub>2</sub>e**. The same was verified from PPs sampling survey and Verification team's acceptance sampling, it was found that the achieved proportion of non-working stoves is less than the expected range, hence uncertainty is reduced. Hence, accepted.

The technical review was performed by a technical reviewer qualified in accordance with VKU's qualification procedure.

The following individuals were part of the Verification Team as presented in **Table No.-01** below:

Role/Qualification	Last Name	First Name
Team Leader & Technical Expert T.A. 3.1	Kumar	Barun
Validator/Verifier	Chauhan	Shivani
Project Trainee	Kumar	Anand
Local Expert (Republic of Kenya)	Mathile Kitunda	Hannah

The following individuals were part of the Technical Reviewer Team as presented in **Table No.-02** below: -

Role/Qualification	Last Name	First Name
Technical Reviewer & Technical Expert T.A. 3.1	Kumar K	Sanjay

## 1.4 Summary Description of the Project

CQC has implemented the distribution of 105,546 improved cook stoves (ICS) but 75,149 are considered operational in the geographical boundary of republic of Kenya until current 4<sup>th</sup> monitoring period from **16-September-2022 to 31-March-2023** (Inclusive of both dates) replacing conventional open three stone fire cookstoves. The operational TLC-CQC Rocket cookstoves considered for calculation of emission reductions are 75,149; which is as per (py-proportion of installed ICS operating- 71.20%). The factor has been derived from the sampling survey conducted by PP for the current fourth MP/20/and it has been revised as per stove champion follow up survey conducted during current MP3 where 71.20% operational rate was found which is more conservative and appropriate. The baseline stoves are conventional system with no improved combustion air supply or flue gas ventilation system as verified from on-site inspection and interview. The project stoves are having better efficiency as compared to baseline cooking system i.e., three stone open fire, the efficiency varies in each vintage as per the methodology and same is tabulated in **Table No.-03 below**; and therefore, results in saving firewood compared to baseline scenario.

S. No.	Vintage Year (y)	$\eta_{new,y,i,j}$
1	Vintage Year 1	32.43%
2	Vintage Year 2	32.11%
3	Vintage Year 3	31.78%

The project started operating from 06-October-2020 as verified from the MR/1/ and Project installation database/17/ submitted by PP. Each project ICS included in the grouped project activity with an end user agreement executed between end user and CQC/8/. 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 Asia Limited, owns the rights to VCU's /8/.

Only one stove model (**TLC-CQC Rocket Stove**) was distributed in the grouped project with efficiency of 34.5 % as certified from Aprovecho Research Centre report/9/. Under this project two stoves were installed per household in Kenya with per-stove efficiency of 34.5%/9/ &/10/ which is 32.43% for vintage 1 and 32.11% for vintage 2 and 31.78% for vintage 3 as listed in **Table No.-03 above**. The grouped project technology was witnessed by the audit team during on-site audit from 29-August-2023 to 31-August-2023 and found to be operating as per the specifications and description in TLC Brochure/10/. Each ICS has a life span of 10 years as confirmed from stove manufacturer specification/10/.

TLC cookstoves manufactured under the grouped project activity match the fixed design specification. This was achieved by using brick molds of specified dimensions to make bricks used for stove construction locally. 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 periodic audits and surveillance of the stoves distributed under the project activity to ensure their proper functioning throughout the project lifetime. The life of TLC stove is at least 10 years owing to it being a clay and brick stove which can be easily repaired using a mixture of local clay, cow dung, sand, and water on a regular basis. The metal parts used in the stoves are under extended warranty from PP/manufacturer side throughout the projected life span and will be replaced in case of request received from the stove owner for replacement. This along with spot audits and after installation maintenance services, ensure that the project stoves continue to work at efficiencies as specified by the manufacturer/10/.

As per registered project design document and baseline study and justification, it is noted a project ICS can save 2.1286 tonne/year of firewood in vintage 1 and 2.0978 tonne/year of firewood in vintage 2 and 2.0674 tonne/year of firewood in vintage 3 of the current monitoring period, as calculated using approved methodology VMR0006, version 1.1 /7/. Therefore, 75,149 ICS operational till the end of fourth monitoring period resulted in reduction of 130,982 tCO<sub>2e</sub> emission reductions as per the ER calculation spreadsheet /2/and MR/1/.

The project's fixed crediting period of 10 years is from 06-October-2020 to 05-October-2030 (inclusive of both dates). Emission reductions the current monitoring period from **16-September-2022 to 31-March-2023** (Inclusive of both dates) 75,149 operational ICSs results in overall reduction of **130,982 tCO<sub>2e</sub>** emission reductions.

## 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 4.4/4/, VCS standard document version 4.4 & version 4.5/5/. The GHG emission reductions are on the basis of the approved Baseline and monitoring methodology VMR0006, version 1.1/7/.

#### The verification consisted of the following thirteen phases

- I. **Planning and Intimation to VERRA about site visit:** The assessment team plans the GHG-programme site visit and starts with a desk review of MR/1/ and ER calculation spreadsheet/2/. Assessment team also shared a NOVS Form 15 business days before the initial meeting with the project proponent.
- II. **Strategic Analysis:** The assessment team conducted a strategic analysis to gain insights into the organization's, project's, or product's activities. This analysis was aimed at determining the scope and scale of the verification activities and will be utilized in the risk assessment process.
- III. **Risk Assessment;** The assessment team carried out a risk assessment of the GHG statement to identify the likelihood of a substantial error or noncompliance with the established criteria.
- IV. **Evidence Gathering Activities;** Using a risk-based approach assessment team prepared the evidence gathering activities to collect sufficient and appropriate evidence upon which to base the conclusion & determine whether the GHG statement conforms to the criteria, taking into account the principles of the standards that apply to the GHG statement.
- V. The requirement for a site visit is recognized, and subsequently, the planning for the site visit is undertaken. Decision to take site visit was based on independent risk assessment, as defined in section 4.1.13 of VCS standard version 4.5/7/
- VI. **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. Sampling was performed as per the CDM sampling standard and guideline in the same audit plan that is communicated to PP.
- VII. **Evidence Gathering Plan;** The evidence-gathering plan is formulated in accordance with the risk assessment conducted by VKU's Assessment Team. This plan is structured to reduce the verification risk to a level considered acceptable. As a result, the evidence-gathering plan outlines the specific nature and scope of the evidence collection activities.
- VIII. **Client Confirmation and Approval:** The site visit audit plan is sent to the client for review and confirmation/approval via email.

- IX. **Document Review:** Relevant documents, such as the verification report, monitoring plan, methodology, VCS PD and QA/QC procedures are thoroughly reviewed.
- X. **On-Site Assessment:** This includes interviews and evaluation of the actual project scenario at site.
- XI. **Resolution of Discrepancies:** Any non-conformities identified during the assessment are addressed and resolved and documented in **Appendix-C** of this report.
- XII. **Independent Review:** An independent assessment was provided by the technical reviewer.
- XIII. **Final Verification:** After completeness checks, the verification report and certification are issued

The following sections outline each step involved in verification 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 1.0 dated 17-August-2023 and **final Version 1.6 dated 05-September-2024**, the emission reduction calculations spreadsheets version 1.0 dated 17-August-2023 and **final Version 1.2 dated 05-September -2024/2/** received from the PP were assessed as part of the verification. In addition, the registered Project Document /3/ in particular the baseline estimations and the monitoring plan for the project was reviewed.

The following **Table No.-04** lists the documentation that were reviewed during the current verification.

/1/	CQC: VCS monitoring report for “Installation of high efficiency wood burning cookstoves in Kenya”, for the current monitoring period from 16-September-2022 to 31-March-2023 (Inclusive of both dates) <ul style="list-style-type: none"> <li>• Version 1.0 dated 17-August-2023</li> <li>• Version 1.1 dated 07-October-2023</li> <li>• Version 1.2 dated 17-October-2023</li> <li>• Version 1.3 dated 24-October-2023</li> <li>• Version 1.4 dated 05-March-2024</li> <li>• Version 1.5 dated 12-March-2024</li> <li>• Version 1.6 dated 05-Septmber-2024</li> </ul>
/2/	CQC: Emission Reduction Calculation Spreadsheet for “Installation of high efficiency wood burning cookstoves in Kenya”, for the current monitoring period from 16-September-2022 to 31-March-2023 (Inclusive of both dates) <ul style="list-style-type: none"> <li>• Version 1.0 dated 17-August-2023</li> <li>• Version 1.1 dated 07-October-2023</li> <li>• Version 1.2 dated 05-Septmber-2024</li> </ul>
/3/	VCS Project Webpage: <u>PD for the project ‘Installation of high efficiency wood burning cookstoves in Kenya’ version 4.0 dated 21-October-2022</u>
/4/	VCS: <u>VCS Program Guide, version 4.4 dated 29-August-2023</u>

/5/	<p>VCS: <u>VCS Standard, version 4.5 dated 29-August-2023</u></p> <p>VCS: <u>VCS Standard, version 4.4 dated 21-December-2023</u></p>
/6/	<u>VCS: Monitoring report Template VCS Version 4.2</u>
/7/	VCS: <u>VMR0006-Methodology for Installation of High Efficiency Firewood Cookstoves V1.1</u>
/8/	CQC: Sample copies of end user agreement between PP and end user
/9/	Result of performance test of ICS as per WBT, by Aprovecho Research Center, Test report of October 2015
/10/	Manufacturer's specification: TLC Brochure - Declaration of ICS life and Efficiency
/11/	<u>CDM: Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities, Version 4.0</u>
/12/	<u>CDM: Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 9.0</u>
/13/	VCS Project Webpage: <u>Validation report "Installation of high efficiency wood burning cookstoves in Kenya" version 03 dated 10-May-2022</u>
/14/	<p>VCS Project Webpage:</p> <ul style="list-style-type: none"> <li>• <u>Verification report "Installation of high efficiency wood burning cookstoves in Kenya" version 03.0 dated 22-October-2022 for monitoring period from 06-October-2020 to 31-August-2021 (Inclusive of both dates)</u></li> <li>• <u>Verification report "Installation of high efficiency wood burning cookstoves in Kenya" version 02.0 dated 04-November-2022 for monitoring period from 01-September-2021 to 28-February-2022 (Inclusive of both dates).</u></li> <li>• <u>Verification report "Installation of high efficiency wood burning cookstoves in Kenya" version 03.0 dated 08-May-2023 for monitoring period from 01-March-2022 to 15-September-2022 (Inclusive of both dates).</u></li> </ul>
/15/	<p>CQC: User survey</p> <ul style="list-style-type: none"> <li>• Sample User Survey Form</li> <li>• Sample User survey photo taken during survey</li> <li>• Attendance sheet and presentation for data collection training during survey</li> </ul>
/16/	VERRA: <a href="https://registry.verra.org/app/projectDetail/VCS/2349">https://registry.verra.org/app/projectDetail/VCS/2349</a>
/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 GHG Program
/20/	CQC: Sampling and Survey Report and Spreadsheet (01-June-2023 to 23-June-2023)
/21/	Site visit Photographs and attendance sheet from 29-August-2023 to 31-August-2023
/22/	VCS: <u>Validation and verification manual version 3.2 dated 19-October-2016</u>
/23/	UNFCCC: Project search: <a href="https://cdm.unfccc.int/Projects/projsearch.html">https://cdm.unfccc.int/Projects/projsearch.html</a>
/24/	Gold Standard Foundation: <a href="https://registry.goldstandard.org/projects?q=&amp;page=1">https://registry.goldstandard.org/projects?q=&amp;page=1</a>
/25/	<u>CDM Validation &amp; Verification Standard version 03.0 dated 09-September-2021</u>
/26/	VCS Program Definitions version 4.4 dated 29-August-2023
/27/	<u>2006 IPCC Guidelines for National Greenhouse Gas Inventories</u>
/28/	<u>Tool 30 - Calculation of the fraction of non-renewable biomass; version 3.0</u>

/29/	GPS map camara app version 1.2.25
/30/	Interviews conducted onsite from 29-August-2023 to 31-August-2023
/31/	<u>Google Earth pro</u>
/32/	KML File showing location of project -Kenya
/33/	Photographs of Brochure taken at site by Verification team of VKU during site visit
/34/	Ex-Ante ER calculation spreadsheet
/35/	Sample Sale Invoices
/36/	VKU's Internal Procedure on Sampling Method & Guidance: VKU.F74A.Sampling Plan Method and Guidance
/37/	<u>Stove manufacturing Guide for easy maintenance and contact number of Implementor/PP</u>
/38/	Training Manuals and Photographs
/39/	Response requested Letter for Supply Chain- Scope 3 Emission
/40/	VKU.62. W: Appendix-1 of Field Assessment Checklist for Sample Selected by VVB for Energy Demand & Distribution Projects
/41/	MP04 – MP01 Distribution Database and Comparison
/42/	Grievance Redressal policy
/43/	44.03.05 Stoves in Operation - Verified Secondary Data for number of operational cookstove
/44/	44.03.06 Privileged & Confidential - Stove champion database
/45/	44.02.08.04.02.01.01 2349 MP04 Nyij Precision_05092024
/46/	<ul style="list-style-type: none"> <li>“44.02.08.02.02.01.05 Verra s6.1 OPERATIONS MP 1 2349” for MP-1 for By=1,new,i,j,survey</li> <li>“2349 MP01 Bynew &amp; Nyij Precision_25082024”</li> </ul>

## 2.3 Interviews

The tables from **Table No.- 05 to Table No.-07** below describes the onsite interview process/30/ and further identifies personnel, including their roles, who were interviewed and/or where personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure were interviewed.

The details of the people interviewed during monitoring period are mentioned in the table below as per the **VKU.46W. Attendance sheet signed by PP and other representatives and local stakeholders/21/**.

Location: **Republic of Kenya**

The key personnel interviewed during the opening and closing meeting session of the site visit, and the main topics of the interviews are summarized in **Table No.-05** below:

S. No	Name and Role	Gender	Organization	Topic
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1	Mohit Narvariya, (Senior Associate)	Male	CQC	<ul style="list-style-type: none"> <li>• Description of the project activity, ownership, avoidance of double counting,</li> <li>• Emission reductions calculations</li> <li>• Monitoring plan and monitoring arrangements</li> <li>• Monitoring, recording, QA/QC procedures.</li> <li>• ICS operational status, commissioning details, project investment etc.</li> <li>• Implementation Status, Training to maintain cookstove, Spot-checking mechanism, Documentation, Benefits of the project</li> </ul>
2	Sunny Michael, (CSAT Officer)	Male	CQC	
3	Chripsine Lwal, (Quality Assurance Manager)	Male	CQC	
4	Peris Ruru (Country Manager)	Female	CQC	

The topics covered during the onsite visit interview with the site personnels and O&M team ranges from general features and implementation of project to technical details of the project like monitoring and data collection, recording and archiving procedures. The assessment was drawn based on the feedback received during interview coupled with the documentation review.

The key stakeholders interviewed, and the main topics of the interviews during site visit are summarized in **Table No.-06** below: -

S. No	Name	Gender	Category	Topic
1	Martha Ndambiki	Female	Local Stakeholder	The impact of the project activity on health, economic and overall social upliftment of the community in implementing region.
2	Joseph Kioko	Male		
3	Mveni Musyoka	Female		

The assessment was based on the feedback received during onsite interview coupled with the documentation in **Appendix-01 of VKU.F62W. Field Assessment Checklist for Sample Selected by VVB for Energy Demand & Distribution Projects/40/**

During the onsite visit/30/, the assessment team conducted interviews with local stakeholders involved in the projects to validate the implementation and grievance resolution process, which had been claimed and detailed in the MR/1/ (refer to section 2.2 of MR). The assessment team not only confirmed the project's sustainable development claims but also evaluated its socio-

economic impact on the local community. Further information on this aspect is available in section 4.1 of this report.

Moreover, the assessment team inspected records and noted that the PP had provided opportunities for local residents to voice their opinions and grievances. They had made efforts to resolve these issues through consultations with stakeholders. To verify these statements, the assessment team engaged in focused group discussions and conducted personal interviews with stakeholders. As a result, it was deemed acceptable by VKU that the PP has a well-defined procedure for involving local stakeholders in project implementation and appropriately resolving their grievances, as summarized in the Table No.-06 and Table No.-07.

The end users interviewed during site visit are mentioned in the **Table No.-07** below. Each end-user household was installed with 2 stoves each

S.No.	Date	Name and Stove ID	Gender	Topic of Discussion
1.	29-August-2023	Dorothy Mwendu (Stove 1 ID CQCVKE0072901, Stove 2 ID CQCVKE0072902)	Female	<ul style="list-style-type: none"> <li>On-site Interview on the number of project devices operating during the year <math>y</math> (<math>N_{y,i,j}</math>)</li> <li>Check the baseline scenario</li> </ul>
2.	29-August-2023	John Ndala (Stove 1 ID CQCVKE0057210, Stove 2 ID CQCVKE0057209)	Male	
3.	29-August-2023	Martha Muthoni (Stove 1 ID CQCVKE0058314, Stove 2 ID CQCVKE0058313)	Female	
4.	29-August-2023	Josphine Njeri (Stove 1 ID CQCVKE0059875, Stove 2 ID CQCVKE0059874)	Female	
5.	30-August-2023	Agnes Mathei (Stove 1 ID CQCVKE0230049, Stove 2 ID CQCVKE0327159)	Female	

6.	30-August-2023	Rosalia Mbaika (Stove 1 ID CQCVKE0328068, Stove 2 ID CQCVKE0328065)	Female	
7.	30-August-2023	Consolata Wanza Mvlwa (Stove 1 ID CQCVKE0328545, Stove 2 ID CQCVKE0328546)	Female	
8.	30-August-2023	Janet Nduku (Stove 1 ID CQCVKE0095998, Stove 2 ID CQCVKE0095997)	Female	
9	31-August-2023	Lina Muema (Stove 1 ID CQCVKE0133147, Stove 2 ID CQCVKE0133148)	Female	
10	31-August-2023	Agnes Mumbua Mbithi (Stove 1 ID CQCVKE0100292, Stove 2 ID CQCVKE0100291)	Female	
11	31-August-2023	Margret Nzioki (Stove 1 ID CQCVKE0101715, Stove 2 ID CQCVKE0101716)	Female	

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 end user agreement signed by the household/8/. 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/7/.

## 2.4 Site Visits

VKU audit team has conducted an on-site inspection from 29-August-2023 to 31-August-2023 following sampling approach as explained in below section:

### PP's sampling approach:

PP has proposed simple random sampling plan using 90/10 as confidence/precision. This is in line with the Section 8.4 of the applied methodology /7/. The sample size for each parameter is determined following guidelines-Appendix 1 Section 2.1.1 for Sampling and Surveys for CDM Project activities and Programme of Activities Version 4.0 (EB86, Annex 4) /11/&/12/. The monitoring parameters monitored through the sampling plan are:

- a) Number of operating unit (ICS) under the grouped project activity

### 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

### Verification Approaches -

- a) ASP: Acceptance Sampling
- b) SPL: Sampling Approach (all data available)
- c) CDC: Complete data check of data including all data aggregation steps
- d) COM: Full data check at higher data aggregation levels and sampling at original data levels document the rationale for the decision

### Sampling/Verification Plan-

In order to ensure a complete, transparent and timely execution of the assessment task, the team leader has planned the complete sequence of events necessary to arrive at a substantiated final opinion. Various tools have been established in order to ensure an effective assessment planning.

**Step 1- Identification of Materiality threshold**

Check the relevant box against applicable threshold level	Threshold applied as per section 4.1.10 of VCS Standard V4.5/5/	Related to Materiality Threshold
<input checked="" type="checkbox"/>	<b>1%</b>	<p>Quantitative materiality demands that the threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations, individually or in the aggregate, for any reported relative to the total reported GHG emission reductions and/or removals assets shall be limited to one percent.</p> <p>The same was verified from PPs sampling survey/15/ and VVBs acceptance sampling, it was found that 100% samples were appropriate and rejection was 0% which is less than 1%. Hence, accepted.</p>

**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 is mitigated by reviewing the claims in the VCS PD/3/, 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). Interviews conducted by Verification team with

				Promoters/30/ also confirmed the monitoring procedures were in line with the registered monitoring plan/3/
2.	Project design: Information on project design without adequate controls related to data, evidences (project/sector related)	High	Project design incorrectly described thus leading to incorrect delineation of the baseline scenario, causal change, threats to the project	The risk is mitigated by reviewing the claims in the VCS PD/3/ and its assessment based on VCS requirements. The background documents including monitoring survey report/20/ (such as those related country specific f <sub>NRB</sub> study) shall be cross-checked with the project specific evidence, related to the host country/region and interviews/30/ with the related stakeholders.
3.	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 is ensured by reviewing the VCS PD/3/ VCS requirements, sampling tool applied and ensuring feasibility/appropriateness of the monitoring plan by means of onsite interviews with the PP/30/, their associates and the end users/30/. In case if the precision levels achieved in the 11 HH samples identified are higher than the desired precision levels, then the risk associated with this is mitigated as per the provisions of the sampling standards. The discounting of ER will happen as per para 18 (b) (i) (a)-(b) of the sampling standards wherein for every percentage of precision level higher than the desired precision levels 3% of the ERs will be deducted. This is

				done as a corrective measure. For example, for the required 90/10 CI/precision level, if the samples precision achieved is 90/11, then the corresponding ER will be discounted by 3%.
4.	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 is 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 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, i.e., VKU 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 sample instances found to be in compliance by VKU Assessment team.

<input type="checkbox"/>	No sampling approach has been used by the VVB to verify the project's compliance with SD Vista requirements.
<input checked="" type="checkbox"/>	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.,11) calculation is provided below.

#### AS: Acceptance Sampling

Assessment team has applied an acceptable sampling approach for the onsite interviews as part of assessment in accordance with the paragraph 26 of the Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 09.0/12/. In accordance with the paragraph 28 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 10% and consumer risk of 10 %** as per VVBs professional judgement according to para 30 of Sampling and surveys for CDM project activities and programme of activities V09.0/12/ in determining the VVB's sample size of **11** with acceptance number **(c) as 0**. This is also in line with VKU's internal procedures on sampling /36/.

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

Verification team based on its professional judgement and observation during acceptance sampling, derived its assessment including conclusions as discussed later in the following section of this report. The verification team selected random samples from PP's sample list of 69 samples. The stoves details (unique serial number, date of installation, type of ICS, name of user and address) were checked and found to be consistent with that reported in the installation

database. No inconsistency was observed for any of the 11 samples (in total 22 ICSs as each household has 2 ICS) with respect to on-site inspection & document review. This assessment of the selected samples was done to ascertain the implementation status of the grouped project activity with respect to the stove types, serial number, location etc. of ICS.

## 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 grouped 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:

- If monitoring and reporting reveal non-conformities with the monitoring plan or methodology, or if the evidence offered to demonstrate conformity is insufficient;
- Errors in the application of assumptions, data, or calculations of emission reductions have been made, which will affect the estimate of emission reductions;
- The project's proponent has not addressed issues encountered in a FAR during validation or previous verification which needs to be assessed during current verification.

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

In summary, **06 CLs, 04 CARs and 00 FAR** were raised during this current verification which were closed successfully and details are given under [Appendix C](#) of this report.

### 2.5.1 Forward Action Requests

This is the fourth periodic verification of the grouped project activity and no any FAR was raised from validation/13/ and previous verifications /14/ which need to be closed in the current verification. No FARs were raised in the current verification period.

## 2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and does not hold accreditation for validation of any relevant 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 parallely by other certification bodies, as there was no new project activity instance was added in current monitoring period. This was confirmed with focussed group discussions and interview with the PP /30/ during site visit/21/. Assessment team assessed the VERRA's website during the assessment of this grouped project activity: <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

### 3.1 Participation under Other GHG Programs

The grouped project has not been registered under any other GHG program except VCS with project ID: 2349/16/. Furthermore, double counting issue has also been assessed and the project verification team has also checked the Gold Standard project database (<https://registry.goldstandard.org/projects?q=&page=1>), VCS project database (<https://registry.verra.org/app/search/VCS/All%20Projects>), Bio Carbon registry (<https://biocarbonregistry.com/en/projects/>), ICR registry (<https://www.carbonregistry.com/explore/projects>), Social Carbon registry ([https://wilder.earth/social\\_carbon](https://wilder.earth/social_carbon)), UCR registry (<https://www.ucarbonregistry.io/>), Carbon registry-India (<https://cri.nccf.in/>) and Cercarbono registry (<https://www.ecoregistry.io/>) were checked and this project isn't available within their project databases except VCS, either at the time of this report date.

This was further confirmed through a declaration/19/ submitted by the PP in which they have mentioned that they will not claim same GHG emission reductions of the project from any other GHG program thus ensuring emission reduction generated from the project activity for current monitoring period from 16-September-2022 to 31-March-2023 (Inclusive of both dates) will not be double counted hence accepted by the assessment team.

#### Rejection by other GHG programs

The grouped Project is not rejected by other GHG programs. A declaration/19/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with the following registries and checked projects from the PP matching the same project design and found that no such grouped project either exists or were rejected by the registries.

The details of the registries checked are as follows:

- 1 <https://www.recregistryindia.nic.in/>
- 2 <http://cdm.unfccc.int/>
- 3 <http://www.goldstandard.org/>
- 4 <https://verra.org/verra-standards-and-programs/>.
- 5 <https://www.ucarbonregistry.io/>
- 6 <https://projects.globalcarboncouncil.com/>
- 7 <https://cri.nccf.in/>
- 8 [International Carbon Registry](#)

Hence, based on the aforementioned statements, it can be concluded that the project meets the requirements to participate in the VCS Program.

## 3.2 Methodology Deviations

During the current monitoring period, no methodology deviation was observed and even during the previous verifications /14/, no methodology deviations were observed

### 3.3 Project Description Deviations

#### Deviation-1

PP has taken this project description deviation in the previous monitoring period from 01-March-2022 to 15-September-2022 (Inclusive of both dates) where the project ownership rights transferred to C-Quest Capital SGS Stoves Private Limited from C-Quest Capital Asia Stoves Limited. The relevant document (Deed of accession in respect of VCS registration deed of representation) for transferring the ownership to VCS has been provided by PP and Verra has also approved this change as confirmed from the already published document such as Communication agreement dated 24-September-2022 and Accession Representation and Deed of Partial Release in respect of VCS registration deed of representation both dated 11-January-2023, for change in project ownership on the project webpage/16/. Hence accepted by VKU.

#### Deviation-2

PP has requested another project description deviation in first verification which covers monitoring period from 06-October-2020 to 31-August-2021 (Inclusive of both dates) of the project which is verified by CCIPL in their verification report /14/ and approved by VERRA<sup>2</sup>.

“In the section 3.5 of registered VCS PD/3/, other than the regulatory surplus and positive list, another step called project method has been added. NPV analysis steps are being added in the revised VCS-PD/3/ to confirm the additionality of each project activity instances, where PP has other sources of revenue except carbon credit sales.

In certain villages of Kenya, Implementing Partner has charged a nominal amount for the readymade bricks used for building the stove (for around 2000 ICS). This happened due to the shortage of raw materials like clay and cow dung in that village/ HH vicinity. These raw materials had to be arranged from other locations by implementing partners at additional cost. Other than these 2000 stoves, project Implementer/Project Proponent installs all the stove at zero cost and PP does not plan on charging the end users any amount. PP has replaced the IP that charged the amount with another IP ensuring that distribution/installation will remain free of cost.

PP has calculated NPV of the project and provided detailed investment analysis spread sheet sheets to VVB during first verification. Also, Implementation cost and project revenue are mentioned in detail in the section 3.5 of the VCS PD/3/.

The proposed changes do not have any impact on applicability of methodology, appropriateness of the baseline scenario and estimation of emission reductions.”

### 3.4 Grouped Project

The grouped project involves the dissemination of energy efficient stoves for cooking purposes.

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<sup>2</sup> <https://registry.verra.org/app/projectDetail/VCS/2349>

Date of First ICS Installed	06-October-2020
No. of instances added/ICS installed during first MP	4,742
No. of instances added/ICS installed during second MP	33,868
No. of instances added/ICS installed during third MP	45,698
No. of instances added/ICS installed during fourth MP	(21,142 +238)- 7,142 = 21,238 <sup>3</sup>
Total no. of ICS distributed till end of 4 <sup>th</sup> MP (31-March-2023)	105,546
Total no. of ICS operational till end of 4 <sup>th</sup> MP (31-March-2023)	75,149

A total of 105,546 ICS was disseminated and 75,149 were found operational by the end of this fourth monitoring period. The volume of ICS distributed in this period is smaller than ex-ante anticipated in the registered VCS PD/3/ document, resulting in lower emission reductions than anticipated.

Under this grouped project CQC has considered each ICS as an initial project activity instance (PAI) which is deemed acceptable as per the VCS Program Guide 4.4/4/ and VCS Standard Version 4.4 & Version 4.5/5/. The eligibility criteria of the Project Activity Instance, was established at the group project validation in the VCS PD /3/

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 No. 08:** - Eligibility Criteria for new project activity instances

Key Element	Requirements /22/	VVB Assessment
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<p>Geographic Areas</p>	<p>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.</p>	<p>The verification team reviewed the sales record database /35/ 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 /3/. All new project activity instances are located within the host country of Republic of Kenya.</p> <p>This is deemed appropriate to the verification team and in line with the registered VCS PD/3/. Thus, the requirements of this key element are met.</p>
<p>Identification of baseline scenario and demonstration of additionality:</p>	<p>The assessment of baseline scenario and additionality is based upon the initial instances included within each geographic area. VVBs must ensure that, for each project activity, a single baseline scenario exists for each geographic area. VVBs must also ensure for each project activity that additionality is demonstrated across the entirety of each geographic area. Failing this, VVBs must require that the geographic areas are redefined such that the requirements are met. As with projects with multiple instances, project activity instances within a grouped project should be part of the same investment decision if they are to be included in a single project.</p>	<p>The verification team reviewed the sample sales record database /35/, conducted interviews/30/ with representatives of PP and further based on its sectoral expertise confirms that baseline scenario for each project technology and geographic area, as identified in section 3.4 of the VCS PD /3/and, is applicable to the corresponding new project activity instances under the specific technology. In addition, the verification team further confirms that each new project activity instance included within the grouped project follows the additionality as mentioned in VCS PD/3/ and Validation Report/13/.</p> <p>The additionality of the grouped project has been demonstrated by the PP as per the methodology section 7 /7/. PP has stated that there is no law, statute or government programme or policy in Kenya mandating the project activity nor is there any systematically enforced law, statute or other regulatory framework for such projects. Hence this requirement is satisfied for all project activity</p>

<sup>3</sup> For further reference to calculation please refer the MP4-MP1 data comparison excel sheet submitted by PP

		<p>instances to be included in the current grouped project.</p> <p>Furthermore, the verification team has checked during site visit and interviews that all ICS were distributed at zero cost to stove owner/end user. This can be cross verified through interviews with stove owners/end users during the verification process.</p> <p>This is deemed appropriate to the verification team. Thus, the requirements of this key element have been met by all the new project activity instances added to the grouped project.</p>
Eligibility criteria	<p>VVBs must ensure that an appropriate set of eligibility criteria are established for each combination of project activity and geographic area. The criteria are used to validate new project activity instances, essentially serving as a checklist to determine whether the instances share the same attributes as the initial set of validated project activities instances. For example, eligibility criteria for grouped projects implementing CFLs may state that new instances must be installed in grid-connected households and the CFLs must be at least 30 percent more expensive compared to conventional incandescent bulbs. In general, VVBs must ensure that the eligibility criteria are developed sufficiently that such determinations could be made when validating new instances. Eligibility criteria must also conform to any restrictions set out in the methodologies applied.</p>	<p>PP has provided the applicability of each of the eligibility criteria for all the project instances in section 3.3 of the MR /1/ which is in compliance with the VCS PD /3/. The sampling survey sheet questionnaire is attached in Appendix B for further reference.</p> <p>Based on the assessment provided, the verification team concludes that each new project activity instance meets the appropriate set of eligibility criteria (as defined in VCS PD/3/ and thus shares the same attributes as the initial set of validated project activity instances. Thus, the verification team deems them to be appropriate for inclusion in the grouped project.</p> <p>This is deemed appropriate to the verification team. Thus, the requirements of this key element have been met by all the new project activity instances added to the grouped project.</p>
Monitoring and GHG	<p>VVBs must ensure that the project has an appropriate monitoring plan that</p>	<p>The verification team reviewed the VCS MR /1/ and further conducted interviews/30/ with</p>

information system	includes a sampling plan to collect data from all project activity instances and information systems, allowing for centralized data collection. VVBs must ensure the sampling plan is able to generate statistically significant results.	representatives of PP to confirm that the monitoring plan and procedures mentioned therein (which includes the sampling plan) is in conformance to the requirements laid out in the VCS PD /3/, Moreover, according to the monitoring plan the PP is responsible for collecting and storing data. The verification team further confirms that new project activity instances will conform to the monitoring plan requirements and procedures stated therein. However, as per specific requirements of the applied methodologies VMR0006 version 1.1/7/, sampling for monitoring the project under methodologies has taken place during the current monitoring period as verified from the Sampling and survey sheet provided by the PP/15/. The questions from the sampling survey sheet are mentioned in Appendix B of the FVR. Based on the review of the applied methodologies/6/ and VCS PD/3/ this is deemed to be acceptable to the verification team.  Refer to section 4.1 below for detailed discussion on monitoring activities.  This is deemed appropriate to the verification team. Thus, the requirements of this key element have been met by all the new project activity instances added to the grouped project.
Methodology	Grouped projects can apply methodologies other than those designed specifically for grouped projects. When reviewing the methodology and the project's application of it, VVBs must be mindful of any capacity limits applicable to the methodology. VVBs need only ensure that project activity instances and clusters adhere to such capacity limits; the grouped project as a whole may exceed the capacity limit.	The verification team reviewed the MR /1/, sample end user agreements/8/ for new project activity instances, and further conducted interviews/30/ with representatives of PP to confirm that all new project activity instances comply with the requirements of their respective applied methodology /7/. Furthermore, it is confirmed that no methodology other than those designed specifically for grouped projects have been applied. Moreover, all new project activity instances comply with the respective capacity

		<p>limits as per the applied methodology/7/. Furthermore, it is confirmed that no methodologies other than those designed specifically for grouped projects have been applied. Moreover, all new project activity instances comply with the respective capacity limits as per the applied methodology/7/. Each cookstove results in annual energy saving of 0.009 GWh/TLC-CQC Rocket and this can be verified from the ER sheet provided by PP/02/</p> <p>This is deemed appropriate to the verification team. Thus, the requirements of this key element have been met by all the new project activity instances added to the grouped project.</p>
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Based on the above assessment the verification team confirms that inclusion of project activity instances in the grouped project are valid.

## 4 VERIFICATION FINDINGS

### 4.1 Project Implementation Status

As verified from on-site assessment and monitoring results of PP, the audit team confirms the grouped project implementation and operation complies with the project description document/2/. The purpose of the project is to disseminate efficient, improved cooking stoves (ICS) in rural households of Kenya. 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 Kenya is the use of the open fire cooking, popularly known as conventional method using firewood. The grouped project thus reduces greenhouse gas (GHG) emissions by replacing traditional wood-fuel by more efficient wood-fuel ICS. The replacement of conventional method of cooking 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 reduces GHG emissions through their improved thermal efficiency as compared to traditional/baseline stoves. This grouped project is implemented by CQC /15//18//19//20/. Users transfer the ownership of carbon credit via end user agreement/8/. The operational and management structured is verified from document review and on-site interview.

The verification team confirms that during the current monitoring period i.e., from 16-September-2022 to 31-March-2023 (Inclusive of both dates) the VCS grouped project has disseminated 105,546 ICS in Kenya and found 75,149 operational/17/. The first stove was installed on 06-October-2020 and is also verified from project database/2/ and validation report/13/ and found to be accurate. The ICS promoted under the grouped project have 10 years technical life /10/ and initial tested efficiency of ICS was 34.5 %. This was further confirmed by the verification team by the TLC Brochure/10/ submitted by the PP.

Below **Table No.-09** indicates the Technical Specification of ICS as per TLC brochure/10/ and confirmed by assessment team onsite visit /21/.

Technical Specifications of ICS Installed in each HH	
Stove Size	Depth: 34.5cm Width: 34.5cm Height: 28 cm
Efficiency	34.5%
Average Life	10 years

During this fourth monitoring period ICs disseminated are 105,546 whereas operational status of total 75,149 ICS were taken into consideration and monitoring survey confirmed a 98.96% operational rate between 16-September-2022 to 31-March-2023 (both dates included)/2/.

However, as per VERRA findings, PP has revised the operational rate, hence PP has revised the number of operational cookstoves from 104,447 to 75,149. It is found to be more conservative by VVB since the operational cookstove were found to be 98.96% based on the monitoring survey by PP but the secondary data of other projects registered in the same project region suggests the operation percentage as 90.70% which is less than 100%. But PP has considered the more conservative value of 71.20% which is found under the stove champion follow up survey conducted during MP3 which is very conservative value and it is independently assessed by VVB and found to be consistent.

PP had conducted fourth monitoring survey during the period of 01-June-2023 to 23-June-2023 (inclusive of both the dates) in Kenya. During the survey it was found that 98.96% project devices are in operation, and this was further confirmed by the VVB from the submitted sampling spreadsheet by PP/20/.

So, to measure  $N_{y,i,j}$ , PP multiplied the achieved proportion with commissioned stoves that is  $71.20\% \times 105,546 = 75,149$ .

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. The verification team thus confirmed that the monitoring of the project activity has been implemented in accordance with the monitoring plan in the registered VCS PD. The registered VCS PD/3/ clearly describes the monitoring and responsibility of monitoring is done by PP.

VKU verification team verified 11 samples (In total 22 ICS as each Household have 2 ICS) which is required number of samples as explained in section 2.4 above to ascertain accuracy of information. VKU confirms the project cook-stoves are operating in all samples interviewed/30/, each cook-stove has unique identification number (ID) which has been provided in the end user agreement/8/ and are correct as per project database/17/. Along with the serial number, the stove model, end user name, address, installation date etc. had also been noted which were found to be consistent on ground during the site visit/21/.

It is noted that no changes have been observed or identified 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 project activity or applicability of baseline and monitoring methodology VMR0006 “Methodology for Installation of High Efficiency Firewood Cookstoves” version 1.1/7/.

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 No.-09** below describes the data/parameters relevant to the monitoring plan.

**Table No.-10; Data parameters fixed ex-ante and available at validation are given below:**

S. No.	Data/parameter	Unit	Value applied	Assessment
1	Fraction of woody biomass saved by the grouped project activity during year y that can be established as non-renewable biomass ( $f_{NRBy}$ )	Fraction	0.94	The value has been calculated in accordance with Tool 30 version 3/28/; 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/3/ for the entire crediting period.
2	Net calorific value of the non-renewable woody biomass that is substituted or reduced ( $NCV_{wood\ fuel}$ )	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 1.1/7/.
3	CO <sub>2</sub> emission factor for the use of wood fuel in baseline scenario ( $EF_{wf,CO2}$ )	tCO <sub>2</sub> /TJ	112	It is an IPCC default value verified from 2006 IPCC Guidelines for National Greenhouse Gas Inventories/27/; Volume 2 Energy, Chapter 2 Stationary combustion. The value is fixed as per registered PD/3/for the entire crediting period.
4	Non-CO <sub>2</sub> emission factor for the use of wood fuel in baseline scenario ( $EF_{wf,non\ CO2}$ )	tCO <sub>2</sub> /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 /13/
5	Efficiency of baseline cookstove ( $\eta_{old}$ )	Fraction	0.10	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 1.1/06/.
6	Efficiency of project stove at the start of project activity ( $\eta_p$ )	Fraction	0.345	As per manufacturer specification/9/. Consistent with the registered VCS PD /3/. This has been validated

			during registration as well /12/.
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**Table No.-11; Data and parameters monitored:**

S. No.	Parameter	Value	Description/Assessment
1	Number of project devices of type i and age a that are operating in year y $N_{y,i}$	75,149	<p>From the total commissioned ICS, PP has conducted the sample survey/15/ in line with monitoring plan and sampling and survey guidelines/11/ covering 48 samples in total 96 ICS samples (as each household has 2 ICS) which were found 98.96% operational by the PP/1//2/. The sample size estimations by PP follow Appendix 2 of Guideline for Sampling and surveys for CDM project activities and programmes of activities, version 04.0/11/. According to the section 9.2 of applied methodology, “Number of project devices of type i and batch j operating during year y (<math>N_{y,i,j}</math>) can be measured directly or based on representative sample.”</p> <p>PP had conducted fourth monitoring survey during the period of 01-June-2023 to 23-June-2023 in Kenya. During the survey it was found that 98.96% project devices are in operation, and this was further confirmed by the VVB from the submitted sampling spreadsheet /20/by PP. However, as observed by VERRA that there are some inconsistencies, PP has revised the operational percentage in all MPs being conservative, hence 71.20% is used as the current operational ICS percentage and more explanation is provided in this section above.</p> <p>So, to measure <math>N_{y,i,j}</math> PP multiplied the achieved proportion with commissioned stoves that is <math>71.20\% \times 105,546 = 75,149</math></p> <p>During the site visit/30/, VKU confirmed with the household/end user whether or not the PP has performed monitoring /measurement campaign survey on stove operation (for the parameter <math>N_{y,i,j}</math> ). The verification team also interviewed HH on baseline scenario of the household and enquired/observed the pre-project/baseline stove/s and its operation during the project scenario. The verification team also assessed competence of personnel involved in</p>

			conducting monitoringHence, VKU verification team verified taking 11 samples and verified 22 ICS samples in total (as each household has 2 ICS) and all samples were found operational. Hence reported results are accepted.
2	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/7/. The applied efficiency is correct as per the methodology requirement and registered VCS PD /3/ hence accepted.
3	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. $B_{y=1,new,i,j,survey}$	0.9490 tonnes per device per year	In accordance with the applied methodology/7/ and validated registered VCS PD /3/, the parameters are determined during the first verification and fixed for the remaining crediting period. The determination and calculation of this parameter is not under the scope of current verification. However, the assessment team; - Has verified sampling and calculation sheet of Monitoring Period 4/20/ 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 /46/ for all samples surveyed according to the requirement of methodology.
4	Life Span	10 years	As per manufacturer specification/10/. Value was fixed once at the time of project stove installation. It is consistent with the registered VCS PD /3/. The life of TLC stove is at least 10 years owing to it being a clay and brick stove which can be easily repaired using a mixture of local clay, cow dung, sand, and water on a regular basis. The metal parts used in the stoves are under extended warranty from PP/manufacture side throughout the projected life span and will be replaced in case of request received from the stove owner for replacement.

**Assessment team concludes the following:**

- There are no material discrepancies between project implementation and the project description provided in the registered VCS PD /3/. However, 1 deviation in project description requested by PP related to change in ownership of PP in section 3.2.2 of MR/1/, approved by VERRA has been verified by assessment team and explained in section 3.3 of this report.
- The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate as per the registered monitoring plan in VCS PD/3/ and MR/1/.
- There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/7/.
- The grouped project has not received or sought any other form of environmental credit, or has become eligible to do so since validation/13/ or previous verification /14/.
- The GHG emission reductions or removals generated by the grouped project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading/19/.
- The grouped project has not received or sought any other form of environmental credit, or has become eligible to do so since validation/13/ or previous verifications/14/
- The grouped project is registered under VCS only; however, PP has submitted the declaration stating/19/, they will not claim same GHG emission reductions of the project from any other GHG program for the current monitoring period when project is seeking to get GHG emission reduction from VCS.
- The grouped project activity complies with 7 indicators for sustainable development i.e., social wellbeing, economic wellbeing, environmental wellbeing and technological wellbeing, 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 on site visit /21/ and found all the indicators to be effective and applicable for the project activity.
  - **3.9 i.e. (Proportion of individuals reporting improved health status after adoption of project stoves):** It is evidenced from project survey results/15/ that 100% of the respondent's felt reduction in smoke and soot levels near the cooking area and 98% 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\_2349\_Kenya MP4/20/.

- **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 20 individuals associated with the project. Assessment team has verified training documents/38/.
- **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 claim as 88% 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\_2349\_Kenya MP4/20/.
- **7.1.2 i.e. (Proportion of population with primary reliance on clean fuels and technology):** This grouped project activity has Increased access to clean cooking technology by distributing a set of project stoves in 52,773 households. Assessment team verified the same through Sampling \_Survey sheet\_2349\_Kenya MP4/20/ and onsite visit/21/.
- **8.3.1 i.e. (Proportion of informal employment in non-agriculture employment, by sex):** A total of 10 individuals (7 females & 3 males) were directly and indirectly employed under the project activity during the current monitoring period in Kenya for various activities related to project implementation, maintenance, and monitoring. Assessment team verified the same through training records of employees/38/.
- **13.0 i.e. (Tonnes of greenhouse gas emissions avoided or removed)** Due to implementation of this project activity, it has prevented the release of 130,982 tCO<sub>2e</sub> 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 approximately 1.1323 tons of biomass per stove through operation of 75,149 ICS during the current monitoring period. Assessment team verified the same through ER spreadsheet/2/.

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/3/, All the above stated information was verified by VVB during onsite visit/21/ and site personnel interviews /30/.

## 4.2 Safeguards

### 4.2.1 No Net Harm

The grouped project involves use of improved cooking stove in households replacing conventional cooking stoves. Therefore, the project results in avoidance of CO<sub>2</sub> emissions due to improvement in efficiency as verified from the manufacturer's specification/10/. Therefore, there is no negative environmental impact from the project activity. In addition, due to the project activity, jobs are created on local level as verified during on-site visit 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/7/. Leakage is considered as default 0.95 in accordance with methodology/7/. 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/13/ of the project activity which was validated by Carbon Check (India) Private Ltd. /13/. Although a regular grievance redressal mechanism is established by PP which is accessible by end users as phone number of the PP/implementing partner office in Kenya is available on the brochure /10/ provided to each household, which is the most accessible manner to provide feedback. PP policy and procedure outline the process to evaluate and respond to complaints; the procedure details when a serious level complaint should be communicated to PP country teams and when it would be best addressed by the implementing partner. The verification team has interacted with local stakeholders during on-site assessment/21/ and details are summarized in section 2.3 of this report. There were no negative feedbacks received from local stakeholders as recorded by the verification team which need to be addressed by PP in the current monitoring period.

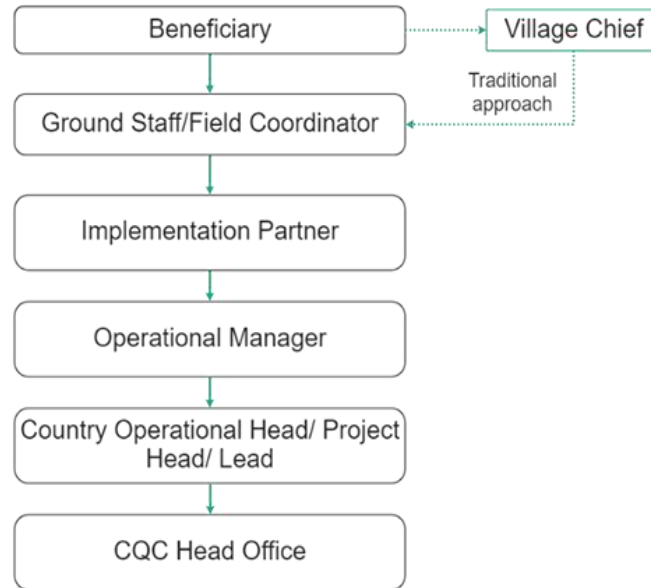
The local implementation partners as well as PP have the responsibility to take grievances regarding the project activity and same will be conveyed to PP during operation of project activity. Thus, ongoing communication of stakeholders is followed through grievance mechanism.

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 "Project Grievance Redress Mechanism" /18/. 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 /3/ and further confirmed during 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 interviews/30/ and based on document review /15/, it can be confirmed that grievance addressal procedure that has been designed and is implemented according to section 2.2 of the MR /1/ and that it is effective in its aim.

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 survey results spreadsheet/15/, this has been checked by the verification team during the onsite interviews/30/. Hence the verification team found the local stakeholders ongoing communication as appropriate

### 4.3 AFOLU-Specific Safeguards

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

### 4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The equations and choices provided in the methodology/7/ 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 1.1/7/. 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/3/ and the applied monitoring methodology/7/.

According to applied methodology VMR0006 (version 1.1) /7/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<sub>y</sub> = Emission reductions during year y in t CO<sub>2</sub>e
- ER<sub>y,i,j</sub> = Emission reductions by improved cookstove of type i and batch j during year y in t CO<sub>2</sub>e

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

Where:

- B<sub>y,savings,i,j</sub> = Quantity of woody biomass that is saved in tonnes per improved cookstove of type i and batch j during year y
- f<sub>NRB,y</sub> = Fraction of woody biomass that can be established as non-renewable biomass (f<sub>NRB</sub>)
- NCV<sub>wood fuel</sub> = Net calorific value of the non-renewable woody biomass that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/tonne)<sup>4</sup>
- EF<sub>wf,CO<sub>2</sub></sub> = CO<sub>2</sub> emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 112 tCO<sub>2</sub>/TJ)<sup>5</sup>

<sup>4</sup>2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 1 Introduction

<sup>5</sup>2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion

$EF_{wf,non\ CO_2}$	=	Non-CO <sub>2</sub> emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 26.23 tCO <sub>2</sub> /TJ) <sup>6</sup>
$N_{y,i,j}$	=	Number of improved cookstoves of type i and batch j operating during year y
0.95	=	Discount factor to account for leakage

To calculate  $B_{y,savings,i,j}$ , we use equation 4 of the applied methodology<sup>7</sup>

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

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
$\eta_{old}$	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.

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

Where:

$\eta_p$	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 1.1/7/, leakage is considered as default 0.95.

<sup>6</sup>2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion

<sup>7</sup>Equation 3 of methodology VMR0006, version 1.1

**Sampling approach: -**

As assessed in this section, emission reductions for the grouped project “Installation of high efficiency wood burning cookstoves in Kenya” has being claimed for this monitoring period and the total population of the stoves for the current monitoring period from 16-September-2022 to 31-March-2023 (Inclusive of both dates) is 105,546 ICS.

The sampling plan is implemented by the PP in accordance with the applied approved monitoring methodology /7/, VCS PD /3/. The CME 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 1.1/7/. As per the VCS PD /3/ mentions the option for Simple random Sampling procedure, it is acceptable to the verification team.

The sampling surveys/15/ have been carried out by the well-trained personnel /18/. Monitoring parameters **N<sub>y,i,j</sub>** and **By=1,new,i,j,survey** are monitored through monitoring sample surveys. Monitoring of the parameters ensures compliance with the applied methodology VMR0006, version 1.1 /7/. Verification team has checked the survey records /18//20/ and sample size calculation. Parameter **N<sub>y,i,j</sub>** monitors the number of stove in operation.

PP has provided the detailed sample size calculation under section 4.3 of the MR/1/in **Table No.-12** below: -

Definition	Value	Justification
The population size N is	1 <sup>st</sup> MP:4,742 2 <sup>nd</sup> MP; 33,868 3 <sup>rd</sup> MP: 45,698 4 <sup>th</sup> MP: (21,142 +238)- 7,142 = 21,238 <sup>8</sup> Total: 105,546	Number of stoves registered in database
The expected proportion p for N <sub>y,i,j</sub> is	0.85	A conservative assumption of 85% is applied for sample size calculation.
Sample size	47.73	Calculated
Sample size (Rounded up)	48	Calculated

<sup>8</sup> For further reference to calculation please refer the MP4-MP1 data comparison excel sheet submitted by PP

Total Sample selected short listed	69	Including 30% non-response
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The above **Table No.-12** mentions the sample size calculated applying the formula;

$$n \geq \frac{1.645^2 N \times p \times (1 - p)}{(N - 1) \times 0.1^2 \times p^2 + 1.645^2 p \times (1 - p)}$$

However, as per the sampling Guideline: Sampling and surveys for CDM project activities and programmes of activities version 04 /11/, 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 /3/, 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/20/, 98.96% ICS were operational. Hence, the rejection level of (1.72%) 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 1<sup>st</sup> MP verification, 2<sup>nd</sup> MP verification and the 3<sup>rd</sup> MP verification as well, which shows that considering 0.85 as expected proportion is conservative on PP’s side.

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 fourth monitoring survey during the period of 01-June-2023 to 23-June-2023 (both dates included) in Kenya. During the survey it was found that 98.96% project devices are in operational, and this was further confirmed by the Verification team from the submitted sampling survey sheet and photographs from the survey/20/. Assessment team conducted acceptance sampling based on the sampling and survey sheet/20/ submitted by the PP.

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

$$71.20\% \times 105,546 = 75,149$$

Hence, the verification team found it is in line with the sampling guideline and VCS PD /3/ found the sampling approach is conservative and appropriate, based on the provisions of the sampling guideline and the same has been updated in section 4.4 of the FVR.

The resultant applied sample size by the PP is summarized in **Table No.-13** below:

Parameters	N <sub>y,i,j</sub>
Sample size -ICS	48
Actual Samples Surveyed (each household have 2 ICS)	96
ICS found operating	98.96%
Precision achieved	1.72%

During the monitoring survey the ICS were found to be 98.96% operational but as per VERRA findings, PP has revised the operational rate and operational ICS were found to be 75,149. It is found to be more conservative by VVB since the secondary data of other projects registered in the same project region suggests the operation percentage as 90.70% which is less than 98.96%. But PP has considered the more conservative value of 71.20% which is found under the stove champion follow up survey conducted during MP3 which is very conservative value and meets the reliability level to 3.39% as per precision sheet submitted/45/.

VVB used acceptance sampling during verification for checking the operational status in the households. The sampling done by Verification team represents the population of the grouped project activity. Applying paragraph 39 (c) of the sampling standard, version 09 /12/, a sample size of 11 samples (22 ICS in total as each household have 2 ICS) was chosen (with no discrepant records). The grouped project activity is located in Kenya which is a developing country-. A sample size of 11 was determined, based on **AQL of 0.5% and UQL of 20%, producer risk 10% and consumer risk 10%** and Acceptance number thus determined for the samples is 0 in line with para 30 and 31 of "Sampling and Surveys for CDM project activities and programme of activities" version 09.0/12/. It is also in line with VKU's Internal Procedures/36/. Verification team inspected 11 -samples (22 ICS in total as each household have 2 ICS, from monitoring survey). It was observed that out of the 22 ICS, all the 22 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 /12/. Verification team has cross verified these sample documents.

**The monitoring parameter to be monitored through the sampling plan is:**

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

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/3/. 90/10 is a methodological choice/7/.

Furthermore, the database and sample sales invoice /35/ 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 /12/, 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 /7/, and registered VCS PD /3/ the necessary confidence / precision of 90/10 for the parameters have been met. 90/10 is a methodological choice/7/ and has been cross verified by the verification team from the supporting documents submitted/2//20/.

Emission reductions have been calculated in accordance with the applied methodology VMR0006 version 1.1 /7/, and VCS PD /3/. The PP has used monitored data and ex-ante fixed data including default values as mandated/permited 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 130,982 tCO<sub>2e</sub> which are 42.17% lower than the estimated emission reduction i.e., 226,498 tCO<sub>2e</sub> for the current monitoring period due to 71.20% ICS were found operating during the monitoring survey as compared to the 10% annual stove loss rate assumed during validation/13/ and  $B_{y=1,new,i,survey}$  value considered during the validation was 1.83 tonnes/device/year whereas the actual value applied during current verification was found to be 0.9490 tonnes/device/year as verified from the MR/1/ and ER spreadsheet/2/ provided by PP and completely assessed by the verification team as stated above.

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 verify 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.

The operational status of project ICS is monitored through sample survey following UNFCCC sampling and survey guideline follows 90/10 confidence precision. The survey forms/15/ and photographs were checked to ascertain the monitoring results reported in survey/15/. For enhancing the survey reliability and QA/QC, training has been provided to the data collector during survey /20/ which was further verified from the training details provided by the PP/18/. It is also noted the achieved precision is less than 10% and hence meets the desired confidence precision. The monitored results are found consistent with on-site audits.

Also, PP has set up grievance/repair/maintenance mechanisms/18/ and rectifies any issues for the operation of the project device. So, VKU is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is line with the applicable VCS requirements.

## 4.6 Non-Permanence Risk Analysis

Since this is not an AFLOU project hence this section is not applicable.

## 5 VERIFICATION OPINION

VKU Certification Pvt. Ltd. has performed fourth periodic verification of the emission reductions reported for the grouped project activity “**Installation of high efficiency wood burning cookstoves in Kenya**”, VCS Registry Project ID 2349, for the monitoring period from **16-September-2022 to 31-March-2023** (Inclusive of both dates), with regard to the relevant requirements for VCS activities with a **reasonable level of assurance**.

The project proponent of the “**Installation of high efficiency wood burning cookstoves in Kenya**” are responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the grouped project on the basis set out in the monitoring plan contained in the registered VCS PD /3/.
- 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 grouped 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 & version 4.5/5/ and GHG program applied, on the reported greenhouse gas emission reductions from the grouped project.

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

- The grouped project has been implemented and operated as per the registered VCS PD/3/;
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.4 & version 4.5 requirements/5/;
- The monitoring is in place as per the applied baseline and monitoring methodology/7/;
- The monitoring plan in the registered VCS PD/3/ is as per the applied baseline and monitoring methodology /7/

VKU’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 level of assurance** that reported GHG emission reductions are fairly stated.

As per VCS Standard; Version 4.5, clause 4.1.23, 4.1.24 and 4.1.25, VKU has given its opinion that the GHG emission reduction stated in the monitoring report; version 1.6 dated 05-September-2024 for the “**Installation of high efficiency wood burning cookstoves in Kenya**” for the period of **16-September-2022 to 31-March-2023** (Inclusive of both dates) are fairly and correctly stated.

**Table No.- 14: Opinion/Conclusion by VKU Assessment team**

Opinion	Final Documents	Monitoring Period	Emission Reductions achieved	Remarks
<b>Positive opinion</b> <input checked="" type="checkbox"/> Negative Opinion <input type="checkbox"/> Adverse Opinion <input type="checkbox"/> <b>Unmodified Opinion</b> <input checked="" type="checkbox"/> Modified Opinion <input type="checkbox"/>	Monitoring Report Version 1.6 dated 05-September-2024  Emission Reduction Sheet Version 1.2 dated 05-September-2024	<b>16-September-2022 to 31-March-2023</b> (Inclusive of both dates)	<b>130,982 tCO<sub>2e</sub></b>	The GHG emission reductions are calculated on the basis of approved methodology /7/ and the monitoring plan included in the registered VCS PD /3/
<p>Hence VKU is able to certify that the emission reduction from the project during the current monitoring period from <b>16-September-2022 to 31-March-2023</b> (Inclusive of both dates) amounts to <b>130,982 tCO<sub>2e</sub></b> assessed in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.5/5/</p> <p>VVB hereby issues a positive and unmodified opinion in accordance with ISO 14064-3:2019/44/, and <b>ISO 14065:2020 Section 09- Clause 9.7.1.6 &amp; 9.7.2</b>. This opinion also meets the requirement stipulated under <b>ISO/IEC 17029:2019, Section 9.7</b> with a reasonable level of assurance for the reported GHG emission reduction data which is free from any material misstatement and is sufficiently supported by evidences provided to VVB by PP tabulated in <b>Table No.- 04</b> of this report.</p>				

**Verification period: 16-September-2022 to 31-March-2023 (Inclusive of both dates):**

Year	Baseline emissions or removals (tCO <sub>2e</sub> )	Project emissions or removals (tCO <sub>2e</sub> )	Leakage emissions (tCO <sub>2e</sub> )	Net GHG emission reductions or removals (tCO <sub>2e</sub> )
<b>Year 2022</b> (From 16-September-2022 to 31-	NA	NA	NA	66,135

December-2022)				
<b>Year 2023</b> (From 01-January-2023 to 31-March-2023)	NA	NA	NA	64,847
<b>Total</b>	NA	NA	NA	<b>130,982</b>

**Comparison of Ex-Ante emission reductions/removals and Achieved emission reductions/removals under this grouped project are summarized below:**

**Monitoring Period:** From 16-September-2022 to 31-March-2023 (Inclusive of both dates)

**Number of Days:** 197

Year	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
<b>Year 2022</b> (From 16-September-2022 to 31-December-2022)	123,022 tCO <sub>2e</sub>	66,135 tCO <sub>2e</sub>	-46.24%	Actual emission reductions achieved are lower than the value estimated in ex-ante calculation, due to consideration of low value of operational rate of 71.20% for ICS on a conservative basis. Also due to $B_{y=1,new,i,survey}$ value considered during the validation was 1.83 tonnes/device/year whereas the actual value during verification was found to be 0.9490 tonnes/device/year.
<b>Year 2023</b> (From 01-January-2023 to 31-March-2023)	103,476 tCO <sub>2e</sub>	64,847 tCO <sub>2e</sub>	-37.33%	Hence, actual emission reduction achieved are lower than the value estimated in ex-ante calculation.
<b>Total</b> (From 16-September-2022 to 31-March-2023)	226,498 tCO <sub>2e</sub>	130,982 tCO <sub>2e</sub>	-42.17%	

# APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
BEF	Baseline Emission Factor
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
CQC	C-Quest Capital
DNA	Designated National Authority
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

1. Sampling Survey Questionnaire employed by Client during Monitoring survey of the samples identified for the preparation of monitoring survey report/20/. PP submitted the same and VKU assessment team has verified the evidences i.e., Sample survey Forms, Sample user survey photo taken during survey/15/

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?

## 2. Sampling Survey Questionnaire put to use by VKU during Onsite Assessment with End Users/41/

Appendix: 1 Household / Stakeholder's Details for ICS visited by Verification Team as per VVB Sample selected

S. No.....	
Household / Stakeholder's name <i>(Indicate relationship with owner in case is different person)</i>	
ID of the related sales agreement	
Location <i>(Village / District / Region / neighbourhood)</i>	
Device Model / Type	
Date of purchase and installation	
ID of the device (plate)	
Is the device in operation? How many?	
Is the baseline stove in use?	
How many dependants in the household?	
How many meals cooked per day? <i>(Per day preferentially, other measures allowed)</i>	
Do you know how to contact CME/PP in case of any problem/complaint/suggestion?	
Is there any test that has been conducted for your device by CME/PP? <i>(e.g., efficiency tests)</i>	
How much it saves? <i>(% of firewood save/Currency/day preferentially, other measures allowed but trying to keep homogeneity)</i>	
Is there any other previous device in use actually? In which situations?	
Which was the previous used fuel?	
Cooking inside home? Outside?	
Opinion about:	<i>Perception about the smoke? / Respiratory wellness? / Allergies / Itching?</i>
The user is happy with the stove. <i>(Include any comments of the user)</i>	
Signature of the user: <i>(If the user doesn't want to sign, respect the decision)</i>	

# APPENDIX C: AUDIT FINDINGS

CAR: Corrective Action Request; (04)

CL: Clarification Request; (04)

FAR: Forward Action Request; (00)

Type	Date	13-September-2023
CAR#01	Reference	Section of Ver protocol: Section 4 and 5
Description of the Non-Conformance		
<p><b>1. Section 1.4 of MR</b> 1.1 PP is requested not to change the MR template requirements and keep the tables and format as per the VCS MR template version 4.2.</p> <p><b>2. Section 1.7 of MR</b> 2.1 As per the VCS Standard version 4.5 clause 3.11.1, PP is requested to provide the location of project in kml file.</p> <p><i>General</i></p> <p>3.11.1 The project location shall be specified in the project description. Project location requirements for AFOLU and GCS projects are specified below and in the GCS Requirements respectively. All other projects shall provide:</p> <ol style="list-style-type: none"> <li>1) The country, region/state/province, district, and community/municipality/city</li> <li>2) For projects with a single project activity instance, a single geodetic coordinate</li> <li>3) For projects with multiple project activity instances (see Sections 3.6.4 - 3.6.22) and grouped projects (see Section 3.6.10), either:             <ol style="list-style-type: none"> <li>a) A geodetic coordinate for each instance, provided in a KML file, or</li> <li>b) Geodetic polygons provided in a KML file that:                 <ol style="list-style-type: none"> <li>i) Encompass all instances in the project, and</li> <li>ii) Delineate the smallest administrative division of land for the local government (e.g., if the activity takes place within six villages, the six villages must each have their own polygon).</li> </ol> </li> </ol> </li> </ol> <p><b>3. Section 4.1 of MR</b> 3.1. Source of data for the data/parameter fNR<sub>y</sub> is found inconsistent with the registered VCS PD; version 4.0, dated 21-October-2022.</p> <p><b>4. Section 5.4 of MR</b> 4.1. The number of ICS mentioned in above sections and in ER sheet are different from this, kindly update the same. 4.2. Please provide the justification for the difference found in the ex-ante emissions reductions/removals and achieved emissions reductions/removals.</p>		
1 <sup>st</sup> Response from PP	Date	30-September-2023
<p><b>1. Section 1.4 of MR</b> 1.1 The table under section 1.4 has been restored.</p> <p><b>2. Section 1.7 of MR</b> 2.1 Clause 3.11.1 of the VCS standard version 4.5 requires the project location to be specified in the project description. PP would like to clarify that as per document titled "<u>August 2023 Overview of VCS Program Updates and effective dates</u>" (Please refer to point 14 on page 4) updated project location requirements as mentioned</p>		

in section 3.11.1 of VCS standard v4.5 are "effective immediately for projects that initiate any validation process after 29-August-2023". Since the validation process was initiated and completed before 29-August-2023 (project was registered on VERRA on 13/05/2022), therefore PP is not required to update section 1.7 of the MR.

**3. Section 4.1 of MR**  
 3.1 Source of data for the data/parameter  $f_{NRBy}$ , has been made consistent with the registered PD.

**4. Section 5.4 of MR**  
 4.1 The number of ICS installed and operational has been made consistent across the MR and ER spreadsheet.  
 4.2 The justification for the difference between the ex-ante emission reduction and actual emission reduction has been updated in the table.

<b>1<sup>st</sup> Assessment by Audit Team</b>	<b>Status</b>	Open	<b>Date</b>	14-October-2023
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**1. Section 1.4 of MR**  
 1.1 Assessment team confirms that PP has updated this section but this is inconsistent as per the template. (OPEN)

**2. Section 1.7 of MR**  
 2.1 PP has not provided the kml for the ICS as the project validation was performed earlier than the latest standard requirement and the location is consistent with the registered VCS PD of this project. (OPEN)

**3. Section 4.1 of MR**  
 3.1 Assessment team confirms that PP has updated the source of data for the data/parameter  $f_{NRBy}$  and it is now found consistent with the registered VCS PD; version 4.0, dated 21-October-2022.Hence accepted.

**4. Section 5.4 of MR**  
 4.1 Assessment team confirms that PP has updated the number of ICS in this section as per ER sheet, hence accepted.  
 4.2 Assessment team confirms that PP has updated the justification for the difference found in the ex-ante emissions reductions/removals and achieved emissions reductions/removals, hence accepted.

Hence CAR#01 is OPEN

<b>2<sup>nd</sup> Response from PP</b>	<b>Date</b>	17-October-2023
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**1. Section 1.4 of MR**  
 1.1 There are no other entities involved in the project except C-Quest Capital SGS Stoves Private Limited. The table has been removed.

**2. Section 1.7 of MR**  
 2.1 The KML file is now submitted.

<b>2<sup>nd</sup> Assessment by Audit Team</b>	<b>Status</b>	Closed	<b>Date</b>	19-October-2023
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<p><b>1. Section 1.4 of MR</b>                  1.1 Assessment team confirms that there are no other entities involved in project activity hence the table has been removed by PP, hence accepted</p> <p><b>2. Section 1.7 of MR</b>                  2.1 Assessment team confirms that PP has submitted the KML file now and it is found correct, hence accepted.</p> <p>Hence CAR#01 is Closed</p>
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<b>Type</b>	<b>Date</b>	14-October-2023
CAR#02	<b>Reference</b>	Section of Ver protocol: Section 1 and 4
<b>Description of the Non-Conformance</b>		
<p><b>1. Section 1.11 of MR</b>                  1.1 PP to provide the basis for calculating the estimated emission value per stove. Also, as per the MR template requirement the overall contribution value need to be mentioned for SDG 13.0.                  1.2 As per the MR template requirement, the contribution over project lifetime need to be mentioned for SDG 15.2, however PP have mentioned the estimated value over 10-year crediting period, which needs to be updated as per the template requirements.</p>		
<b>1st Response from PP</b>	<b>Date</b>	19-October-2023
<p><b>1. Section 1.11 of MR</b>                  1.1 Th ex-ante calculator of VCS2349 has been submitted for reference. Refer values in cell I73 to I84. The average annual estimated emission reductions have been updated in the description.                  1.2 Under the column “Contributions over project lifetime” for SDG15.2, the PP would maintain the estimated contributions over the project lifetime, as the same description is being provided in the SD Vista component of the project.</p>		
<b>1st Assessment by Audit Team</b>	<b>Status</b>	Closed
	<b>Date</b>	19-October-2023
<p><b>1. Section 1.11 of MR</b>                  1.1 Assessment team confirms that PP has provided the ex-ante calculation sheet now and it is found consistent with the values in MR, hence accepted.                  1.2 Assessment team confirms that PP has updated this section and it is consistent, hence accepted.</p> <p>Hence CAR#02 is Closed</p>		

<b>Type</b>	<b>Date</b>	23-October-2023
CAR#03	<b>Reference</b>	Section of Ver protocol: Section 1 and 4

Description of the Non-Conformance				
<p><b>1. Section 1.7 of MR</b></p> <p>1.1. PP has provided the KML file for PAIs, however the KML lacks the following as per section 3.11.1 of the PS v4.5:                      For projects with multiple project activity instances (see Sections 3.6.4 –3.6.22) and grouped projects (see Section 3.6.10), either:</p> <ul style="list-style-type: none"> <li>(a) A geodetic coordinate for each instance, provided in a KML file;</li> <li>(b) Geodetic polygon(s) provided in a KML file that:                             <ul style="list-style-type: none"> <li>i. Encompass all instances in the project, and</li> <li>ii. Delineate the smallest administrative division of land for the local government (e.g., if the activity takes place within six villages, the six villages must each have their own polygon).</li> </ul> </li> </ul> <p>1.2 This is not stated as per the requirements of project location as per project standards v4.5 para 3.11.1 viz., the location does not include details like: country, region/state/province, district, and community / municipality /city.</p>				
<b>1<sup>st</sup> Response from PP</b>		<b>Date</b>	24-October-2023	
<p>1.1 The KML file has been provided as per section 3.11.1, b, ii, the smallest administrative division is the county.</p> <p>1.2 The country location is already provided in the section 1.7, province wise installation details has been added in section 3.1 “Implementation schedule”. For other details like sub-county, ward, village, refer the “HH_Database” tab in the Sampling and survey sheet.</p>				
<b>1<sup>st</sup> Assessment by Audit Team</b>	<b>Status</b>	Closed	<b>Date</b>	31-October-2023
<p><b>1. Section 1.7 of MR</b></p> <p>1.1. Assessment team confirms that PP has submitted the KML file as per the smallest administrative division of the country which is found consistent with the section 3.11.1 of the VCS standard; Version 4.5, hence accepted.</p> <p>1.2. Assessment team confirms that PP has mentioned the required information in section 3.1 which is found correct and consistent with the section 3.11.1 of the VCS standard; Version 4.5, hence accepted.</p> <p><b>Hence CAR#03 is Closed.</b></p>				

<b>Type</b>	<b>Date</b>	28-February-2024
CAR#04	<b>Reference</b>	Section of Ver protocol: Section 3
Description of the Non-Conformance		
<p><b>1 Section 3.1 of MR:</b></p> <p>1.1 As per PRR Comment from VERRA- the reported number of cookstoves distributed in different province have reduced as compared to previous MP:</p> <ul style="list-style-type: none"> <li>a. Central: 46,750 in current MP as compared to 47,826 in previous MP</li> </ul>		

<p>b. Nyanza: 242 in current MP as compared to 248 in previous MP</p> <p>c. Western: 1,760 in current MP as compared to 1,776 in previous MP.</p> <p><b>2 Section 3.3 of MR:</b></p> <p>2.1 As per PRR Comment from VERRA “No new project activity instance has been included under the grouped project in this monitoring period”, which is incorrect considering new ICS have been included during the current MP.</p>					
<b>1<sup>st</sup> Response from PP</b>		<b>Date</b>	05-March-2024		
<p><b>1. Section 3.1 of MR:</b></p> <p>1.1 PP through spot audits and stove champions program is continuously involved in monitoring of the stoves. Whenever issues are identified related to location change, non-usage etc., PP conservatively removes those households from the database for the monitoring period. For the current monitoring period, PP had installed 28,142 ICS. 7142 ICS (corresponding to 3571 households) from various provinces were removed from the MP4 database which were earlier part of MP3 database. Hence, in some provinces there is a decrease in the no. of stoves in MP4 as compared to MP3 even after the addition of new households in MP4. Additionally, PP included a database of 238 ICS (corresponding to 119 households) during this period. These households had been conservatively excluded in the previous monitoring period due to typographical errors in their addresses. The details of these households could not be validated at that time. However, PP has since rectified and validated these details, subsequently incorporated them into the database during the current monitoring period.</p> <p><b>2. Section 3.3 of MR:</b></p> <p>2.1 Section 3.3 has been revised and new project activity instance compliance with eligibility criteria has been included.</p>					
<b>1<sup>st</sup> Assessment by Audit Team</b>		<b>Status</b>	Open	<b>Date</b>	07-March-2024
<p><b>1 Section 3.1 of MR:</b></p> <p>1.1 The clarification provided needs to be substantiated with some evidence and also the comparison between the current MP and last MP is required. OPEN</p> <p><b>2 Section 3.3 of MR:</b></p> <p>2.1 PP has updated the MR and the eligibility for the new project activity instance inclusion is added in the section which is found to be correct and as per the VCS standard guidelines, hence accepted.</p>					
<b>2<sup>nd</sup> Response from PP</b>		<b>Date</b>	08-March-2024		
<p><b>1. Section 3.1 of MR</b></p> <p>1.1 PP has updated section 3.1 of MR with the comparison table of current and previous MP. Additionally, a database comparison sheet of databases from MP1, MP2, MP3, MP4 has been submitted for reference.</p>					
<b>2<sup>nd</sup> Assessment by Audit Team</b>		<b>Status</b>	Closed	<b>Date</b>	12-March-2024
<p><b>1. Section 3.1 of MR</b></p> <p>1.1 PP has updated section 3.1 of MR and included the description separately in section 2.2 and 3.1 separately with the comparison table of current and previous MP. PP has also provided the database comparison sheet of databases from MP1, MP2, MP3, MP4 to substantiate the claims and that is reviewed and cross</p>					

checked thoroughly by VVB for the data consistency and has been accepted as it is found to be correct.

Hence CAR#04 is Closed

Type	Date	13-September-2023
CL#01	Reference	Section of Ver protocol: Section 1, 3 and 4
<b>Description of the Non-Conformance</b>		
<p><b>1. Section 1.11 of MR</b></p> <p>1.1. Please provide the evidence which support this assessment that annual emission of PM2.5 is reduced by 47% in 52,773 project households.</p> <p>1.2. PP is requested to provide evidence which support this assessment that 100% of the respondents felt reduction in smoke and soot levels near the cooking area and 98% of respondents experienced reduced levels of itchiness of eye associated with cooking on open fire.</p> <p>1.3. As stated in the current project contributions, the total project household is 52,773. Please clarify how it is equivalent to 0.25 million household</p> <p>1.4. Please provide the reference of the baseline emission level.</p> <p>1.5. Please provide the survey report which assesses 374.3 hours of free time.</p> <p>1.6. Please clarify the total no. of ICS installations during the current monitoring period</p> <p><b>2. Section 3.1 of MR</b></p> <p>2.1. Please provide the evidence for lifespan of cookstove.</p> <p><b>3. Section 3.3 of MR</b></p> <p>3.1. As stated in section 1.1, total 21,238 ICS are distributed under the current monitoring period. Please clarify the statement that no new project activity instance has been included under the grouped project in this monitoring period.</p>		
<b>1<sup>st</sup> Response from PP</b>	<b>Date</b>	<b>06-October-2023</b>
<p><b>1. Section 1.11 of MR</b></p> <p>1.1 The value is sourced from specific study conducted on TLC stoves "Impact Analysis of Malawi Rural Wood Stove and Jet-Flame Kit Program". Refer "Table 19. Summary of significant conclusions regarding performance" of the report.</p> <p>1.2 A new tab "SDG Contributions" is now added in the survey results spreadsheet which clearly demonstrates each SDG target calculation.</p> <p>1.3 0.25million households are the number of households to be targeted during the 10 years lifetime of the project activity. Till the end of current monitoring period 52,773 households have received 2 TLC stoves.</p> <p>1.4 "Test result: Three Stone Fire" report by Clean Cooking Catalog is submitted as evidence.</p>		

1.5 SDG Target 5.4 description is updated and Berkeley air monitoring report on time savings is submitted as evidence.

1.6 The value has been corrected and updated.

**2. Section 3.1 of MR**

2.1 TLC-CQC Rocket stove manufacturer specification is submitted as evidence for lifespan of cookstove.

**3. Section 3.3 of MR**

3.1 As per VCS standard v4.5, under the section “Inclusion of new project activity instances” para 3.6.17, “Grouped projects provide for the inclusion of new project activity instances subsequent to the initial validation of the project.”

During the validation of the project 500,000 instances were validated, 21,238 new stoves installed in the current MP are initial activity instances, as the number of stoves added from the start of the project activity till the end of the current monitoring period is still 105,546 (all TLC-CQC rocket stove) which is below 500,00. Any new stove addition above 500,000 will be considered as a new activity instance.

<b>1<sup>st</sup> Assessment by Audit Team</b>	<b>Status</b>	Open	<b>Date</b>	14-October-2023
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**1. Section 1.11 of MR**

1.1. Assessment team confirms that PP has provided the evidence but that is inconsistent with respect to the project under verification as the provided report belongs to Malawi, hence evidence related to Kenya is required to be submitted. (OPEN)

1.2. Assessment team confirms that the new SDG survey sheet submitted by PP has the assessment related to the SDGs and it is found acceptable and consistent, hence accepted.

1.3. Assessment team confirms that PP has provided the justification but as per MR template requirement this column relates to the contribution achieved over the project lifecycle-but 0.25 is the estimated population to be covered in 10-year crediting period, however, achieved till now is less, hence this needs to be updated accordingly. (OPEN)

1.4. Assessment team confirms that PP has submitted the PM emission report and it is found to be consistent and hence accepted.

1.5. Assessment team confirms that PP has submitted the survey report and updated this section which is found acceptable.

1.6. Assessment team confirms that PP has updated the number of ICS installations in the revised MR and it is found acceptable.

**2. Section 3.1 of MR**

2.1. Assessment team confirms that PP has provided the evidence for lifespan of cookstove and it is found acceptable.

**3. Section 3.3 of MR**

3.1 According to the requirement of VCS standard for the inclusion of PAIs- it is evident that the assessment need to be done. (OPEN)

<p><b>Assessment of New Project Activity Sub-Table</b></p> <p>3.6.1.1. Assessment projects provide for the inclusion of new project activity sub-Table to the initial verification of the project. These project activity sub-Tables shall:</p> <ol style="list-style-type: none"> <li>1) Comply with all of the design and geographic areas specified in the project description.</li> <li>2) Conform with all local laws, regulations and all applicable criteria for the inclusion of new project activity sub-Table. Partial conformance with all applicable criteria is insufficient.</li> <li>3) Be included in the monitoring report with sufficient technical, financial, geographic, and other relevant information to demonstrate compliance with the applicable set of eligibility criteria and status consistent with the verification/monitoring body.</li> <li>4) Have a history of project monitoring, in respect of each project activity sub-Table, held by the project proponent from the inception until the end of each project activity sub-Table. If the data spans multiple project activity sub-Table periods, including or including cross-monitoring.</li> <li>5) Have a start date that is the same as or later than the proposed project start date.</li> </ol>				
<p>Hence CL#01 is OPEN</p>				
<b>2nd Response from PP</b>		<b>Date</b>	17-October-2023	
<p><b>1 Section 1.11 of MR</b></p> <p>1.1 Assessment team confirms that PP has revised the MR and the description has been revised and updated and does not mention PM2.5 reduction by 47%, hence accepted.</p> <p>1.2 Under the column “Contributions over project lifetime”, the PP would maintain the estimated contributions over the project lifetime, as the same description is being provided in the SDVista component of the project.</p> <p><b>3. Section 3.3 of MR</b></p> <p>3.1 No assessment needs to be done, please refer para 3.6.1.1 of the VCS standard ver4.5.</p>				
<b>2nd Assessment by Audit Team</b>	<b>Status</b>	Closed	<b>Date</b>	20-October-2023
<p><b>1 Section 1.11 of MR</b></p> <p>1.1 The description has been revised and updated and does not mention PM2.5 reduction by 47%.</p> <p>1.2 Assessment team confirms that PP has updated this section and it is consistent, hence accepted.</p> <p><b>3. Section 3.3 of MR</b></p> <p>3.1 Assessment team confirms that PP has updated this section and provided the clause that states it clearly that no assessment needs to be done, hence accepted as per VCS Standard.</p> <p>Hence CL#01 is Closed</p>				

<b>Type</b>	<b>Date</b>	13-September-2023
CL#02	<b>Reference</b>	Section of Ver protocol: Section 1 and 4
<b>Description of the Non-Conformance</b>		
<p><b>1. Section 4.3 of MR</b></p> <p>1.1. Please clarify whether the Project proponent is the project Implementer</p> <p>1.2. Please clarify if the responsible party mentioned here is correct?</p> <p>1.3. The organisation chart seems incomplete as compared to the organisation and team interviewed during site visit, kindly clarify</p> <p>1.4. Please clarify why the value of N is taken as 84,308 in the formula to calculate n</p>		

1.5. Please clarify how PP is arrived at the decision to take 30% extra samples.				
<b>2. Section 5.4 of MR</b>				
2.1 Are Vintage 3 values not applicable in the current monitoring period?				
2.2 Is the monitoring period dates mentioned in this section, correct?				
<b>1<sup>st</sup> Response from PP</b>		<b>Date</b>		07-October-2023
<b>1. Section 4.3 of MR</b>				
1.1. PP's entity "CQC Direct" along with two other IP's (ENSO & Mwangaza) are project implementers.				
1.2. PP's entity "CQC Direct" and two other IPs "ENSO", "Mwangaza" are involved in the stove's distribution and registration, data is recorded by the staff of all the entities doing stoves registration.				
1.3. The organisation chart has been revised and updated.				
1.4. The type error has been corrected in the formula.				
1.5. As per Standard " Sampling and surveys for CDM project activities and programmes of activities" ver9.0, para 13 (b) & 13 (c), the value is based on PP's knowledge of the data and experience.				
<b>2. Section 5.4 of MR</b>				
2.1 The table 11 in section 5.4 has been updated with vintage 1,2,3 values.				
2.2 The monitoring period duration falling under the year 2022 has been corrected				
<b>1<sup>st</sup> Assessment by Audit Team</b>		<b>Status</b>	Closed	<b>Date</b>
13-October-2023				
<b>1. Section 4.3 of MR</b>				
1.1 Assessment team confirms that PP has provided the justification that PP's entity "CQC Direct" along with two other IP's (ENSO & Mwangaza) are project implementers directly which is as per the actual project scenario, hence accepted.				
1.2 Assessment team confirms that PP has provided the justification that PP's entity "CQC Direct" along with two other IP's (ENSO & Mwangaza) are involved in the stove's distribution and registration, data is recorded by the staff of all the entities doing stoves registration which is as per the actual project scenario, hence accepted.				
1.3 Assessment team confirms that PP has updated the organisation chart and it is now as per the actual site practice, hence accepted.				
1.4 Assessment team confirms that PP has updated the MR and the value is found consistent in the formula, hence accepted.				
1.5 Assessment team confirms that PP has used this approach as per Standard " Sampling and surveys for CDM project activities and programmes of activities" ver9.0, and based on PP's knowledge of the data and experience, hence accepted.				
<b>2. Section 5.4 of MR</b>				

2.1 Assessment team confirms that PP has updated the table 11 in section 5.4 has been updated with vintage 1,2,3 values, hence accepted.

2.2 Assessment team confirms that PP has updated the monitoring period duration falling under the year 2022 in the revised MR, hence accepted.

**Hence CL#02 is Closed**

<b>Type</b>	<b>Date</b>	14-October-2023
CL#03	<b>Reference</b>	Section of Ver protocol: Section 1 and 4
<b>Description of the Non-Conformance</b>		
<p><b>1. Section 1.2 of MR</b></p> <p>1.1 PP to clarify the status of the project with reference to the AFOLU category as per VCS MR template requirements.</p> <p><b>2. Section 3.2.2 of MR</b></p> <p>2.1 PP to clarify if these deviations were taken in the current monitoring period or previous verification</p> <p><b>3. Section 4.3 of MR</b></p> <p>3.1 Is the conservative assumption of 85% applied by PP as this approach was found to be inconsistent with the applied methodology.</p> <p><b>4. Section 5.4 of MR</b></p> <p>4.1 PP is requested to provide the reference to verify this parameter value</p> <p>4.2 PP to clarify if the source mentioned here is correct as this is inconsistent with the ER sheet provided and the reference provided in section 4.1 above in this document.</p> <p><b>5. Sampling Survey Sheet</b></p> <p>5.1 PP to provide the calculation of sample size arrived in the sheet</p> <p><b>6. ER Sheet</b></p> <p>6.1 Assessment team identified during desk review of ER sheet that Q cell values are added twice in the total ER formula, please clarify the inconsistency.</p>		
<b>1<sup>st</sup> Response from PP</b>	<b>Date</b>	17-October-2023
<p><b>1. Section 1.2 of MR</b></p> <p>1.1 As per the template, "<i>Indicate the sectoral scope(s) applicable to the project, the AFOLU project category and activity type (if applicable) and whether the project is a grouped project</i>" AFOLU project category is not applicable, hence no reference has been provided.</p> <p><b>2. Section 3.2.2 of MR</b></p>		

2.1 Deviation 1 and deviation 2 were taken during the previous verifications, section 3.2.2 now clearly mentions the MPs during which the deviations were taken.

**3. Section 4.3 of MR**

3.1 The assumption value is correct and it is a calculated value.

**5. Section 5.4 of MR**

4.1 Reference for the parameter value has been added in the ER sheet tab "Summary ER".

4.2 The source has been corrected and made consistent with ER sheet and parameter description table.

**5. Sampling Survey Sheet**

5.1 Sampling sheet and survey sheet were provided earlier separately, both the sheets have been merged. Please refer "Sample size calculation" tab in "sampling and survey sheet" for the calculation.

**6. ER Sheet**

6.1 The total ER formula has been corrected and the revised ERs has been updated in the MR.

<b>1<sup>st</sup> Assessment by Audit Team</b>	<b>Status</b>	Closed	<b>Date</b>	19-October-2023
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**1. Section 1.2 of MR**

1.1. Assessment team confirms that PP has clarified the project status and it is found correct, hence accepted.

**2. Section 3.2.2 of MR**

2.1. Assessment team confirms that PP has mentioned the required information as asked and it is found correct, hence accepted.

**3. Section 4.3 of MR**

3.1.

**4. Section 5.4 of MR**

4.1. Assessment team confirms that PP has provided the reference and it is found correct, hence accepted.

4.2. Assessment team confirms that PP has now updated the source and it is found correct, hence accepted.

**5. Sampling Survey Sheet**

5.1. Assessment team confirms that PP has provided the required information now as asked and it is found correct, hence accepted.

**6. ER Sheet**

6.1. Assessment team confirms that PP has revised the formula to calculate total ER and it is found correct, hence accepted.

**Hence CL#03 is Closed**

<b>Type</b>	<b>Date</b>	23-October-2023
CL#04	<b>Reference</b>	Section of Ver protocol: Section 1 and 4
<b>Description of the Non-Conformance</b>		
<p><b>1. Section 1.1 of MR</b></p> <p>1.1. Are emissions considered taking both the dates in the MP. If yes, please clarify.</p> <p>1.2. Computation error observed in the number of years in audit history table.</p> <p><b>2. Section 1.5 of MR</b></p> <p>2.1. PP has not provided the details of the stoves which was commissioned consistent with the first MP.</p> <p><b>3. Section 1.11 of MR</b></p> <p>3.1. The duration of the MP is 6 months 15 days. The number of individuals mentioned here refer to the MP alone meaning about 40 people annually.</p> <p>3.2. The basis of the claim not provided for SDG 5.4.</p> <p><b>4. Section 4.2 of MR</b></p> <p>4.1. PP to clarify the basis for this procedure? Since sampling is applied with 10% uncertainty, how is one unfavorable response out of 96 linearly then extrapolated</p> <p>4.2. Since the performance of the cookstoves are determined once at installation and is randomly checked during operation, it is not clear how the lifetime is taken uniformly at 10 years for all the stoves in the grouped activity</p> <p><b>5. Section 4.3 of MR</b></p> <p>5.1. How is the sampling performed or frequency of checks that is conducted. More importantly PP to confirm how the efficiency of operation of the stove is ensured. In case the stoves are not under operation and requires to be constructed at site, how long it takes to replace? How is the lifetime of the stove estimated? How its efficiency is taken for the ER calculation. Please provide the procedures involved in each of the steps.</p> <p><b>6. ER Sheet</b></p> <p>6.1. PP to clarify how including both the dates of the monitoring period is conservative, considering that ERs taken on a day basis would result in 1 day less than the difference between start and end date.</p>		
<b>1st Response from PP</b>	<b>Date</b>	24-October-2023
<p><b>1. Section 1.1 of MR</b></p> <p>1.1 Both dates are considered while calculating the emission reductions. In the previous verification i.e., MP3 the MP end date was 15th Sept and was accounted in the emission reductions calculation. For the next MP i.e., MP4 the emission reduction calculations are done from 16th Sept 2022, to 31st March 2023 including both dates.</p> <p>1.2 The error in row "Total", column "no. of years" has been corrected.</p>		

## 2. Section 1.5 of MR

2.2 The details of the first stove installation has been added in section 1.5 of the MR.

## 3. Section 1.11 of MR

3.1 20 individuals have received training under this monitoring period.

3.2 Refer page 31 & 32 of the "The State of the global clean and improved cooking sector". The report has already been submitted, refer "Berkeley air monitoring report" page 10 table 2.

## 4. Section 4.2 of MR

4.1 The typo error has been corrected, 98.96% of the stoves were operational. The minimum sample size required was 48, however PP voluntarily surveys the second stove present in the household, so the total surveyed samples were 96. 95 out of 96 stoves were found to be operational during the current MP. The  $p(\text{operating})$  comes out to be  $95/96=0.9895$ . This needs to be extrapolated for 48 samples because the reliability calculations needs to be done on 48 samples. For 48 samples, 47.5 is operational and 0.5 is not operational, in that case the  $p(\text{operating})$  comes out to be  $47.5/48=0.9895$ . the  $p(\text{operating})$  comes out to be same in both the cases.

4.2 The lifetime of the cookstove is determined by the lifespan of the stove metal parts which is minimum 10 years. Since the structure is of mud and brick, with proper repair and maintenance it can easily last 10 years. Stress testing report by Colorado State University is submitted which clearly shows that the metal parts can last for min. of 10 years.

## 5. Section 4.3 of MR

5.1 The samples are randomly picked up from the installation database. There is no set frequency for conducting the checks, currently the checks are being performed at least once in six months spanning over multiple days. The end users are trained for repair and maintenance of the stoves, till the dimensions of the stoves are of the set standard the efficiency is maintained, moreover the spot checks and stove champions programme make sure the grievances received related to repair and maintenance are properly catered, so that the designs are properly maintained. In case the stove is damaged beyond repair, the household does not wait for the stove to collapse fully and will start the brick preparations simultaneously either self or by contacting the IP/PP staff. Hence, the stove can be replaced immediately. The lifespan of the cookstove is determined by the lifespan of the stove metal parts which is minimum 10 years. Refer the stress testing report of stove metal parts submitted. Efficiency for the ER calculation

## 6. Section 4.3 of MR

6.1 Both the dates are accounted for by adding additional 1 day.

## 7. ER Sheet

7.1 The clarification for the calculation between start and end dates is provided

<b>1<sup>st</sup> Assessment by Audit Team</b>	<b>Status</b>	Closed	<b>Date</b>	31-October-2023
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## 2. Section 1.1 of MR

<p>2.1. Assessment team confirms that PP has clarified the inclusion of both the dates and it is found correct, hence accepted.</p> <p>2.2. Assessment team confirms that PP has corrected the information as asked and it is found correct, hence accepted.</p> <p><b>3. Section 1.5 of MR</b></p> <p>3.1. Assessment team confirms that PP has mentioned the information as asked and it is found correct, hence accepted.</p> <p><b>4. Section 1.11 of MR</b></p> <p>4.1. Assessment team confirms that PP has employed 20 people in this current monitoring period and provided the sufficient document which is found correct, hence accepted.</p> <p>4.2. Assessment team confirms that PP has now provided the reference to verify the claim under SDG 5.4 which is found correct, hence accepted.</p> <p><b>5. Section 4.2 of MR</b></p> <p>5.1. The clarification provided by PP is sufficient and satisfactorily answers the query, hence accepted.</p> <p>5.2. Assessment team confirms that PP has clarified the lifespan of the cookstove properly and submitted the supporting document which is found correct, hence accepted.</p> <p><b>6. Section 4.3 of MR</b></p> <p>6.1. The clarification provided by PP is sufficient and satisfactorily answers the query, hence accepted.</p> <p><b>7. ER Sheet</b></p> <p>7.1. Assessment team confirms that PP has clarified the calculation between start and end dates which is found correct, hence accepted.</p> <p><b>Hence CL#04 is Closed</b></p>
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<b>Type</b>	<b>Date</b>	05-September-2024
CL#05	<b>Reference</b>	Section of Ver protocol: MR & ER
<b>Description of the Non Conformance</b>		
<p>1. As per PRR received from VERRA the registered project description (PD) and monitoring report (MR), the parameter 'B<sub>y=1,new,i,j,survey</sub>', 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 in the revised MRs submitted.</p> <p>2. As per PRR received from VERRA 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.</p> <p>3. As per PRR received from VERRA Section 4.2 of the MR states that this parameter was determined through measurement campaigns at representative households. However, it is not stated as to how the monitoring procedures applied align with VMR0006, v1.1 and how the conditions specified under 'B<sub>y=1,new,i,j,survey</sub>' parameter table (refer page 17-18 of VMR0006, v1.1) were satisfied</p>		

<b>1<sup>st</sup>Response from PP</b>		<b>Date</b>	05-September-2024	
<p>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.</p> <p>As per the applied methodology the PP has carried out fuel measurements campaign for the fuel consumption by the project stoves, where in the mean value determined for project stove is 2.60 kg/day as per the results. The methodology does not require outlier identification from the fuel measurement and hence these values have not been removed. As per VERRA 6.1 finding issue for the project activity, the Mean value of <math>B_{y=1,new,i,j,survey}</math> has been updated for MP1 project stove as per on ground Operation's data.</p> <p>For the subsequent MPs after first monitoring period, the parameter <math>B_{y=1,new,i,j,survey}</math> 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.</p> <p>2. PP has adapted the 90/10 confidence and precision as per the Standard for Sampling and surveys for CDM project activities and programme of activities. <math>B_{y=1,new,i,j,survey}</math> as per survey results is 2.60 kg /day /device<sup>9</sup> gives the precision of 8.09%. Hence the precision attained for the parameter 8.09% is within the chosen 90/10 confidence and precision. The precision calculations have been provided to the MPO1 verifying VVB and same being provided to the current MP verifying VVB. For the stove in operation, the stove champion follow-up surveys are actual on ground surveys carried out by the PP representative and hence there are no telephonic interviews conducted. SC data is submitted to VVB.</p> <p>3. <math>B_{y=1,new,i,j,survey}</math>, determined in the first year of the introduction of the devices (e.g., during the first year of the crediting period, <math>y=1</math>) 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 '<math>B_{y=1,new,i,j,survey}</math>' parameter table (refer page 17-18 of VMR0006, v1.1) were not applicable</p>				
<b>1<sup>st</sup>Assessment by Audit Team</b>	<b>Status</b>	Closed	<b>Date</b>	18-September-2024

<sup>9</sup>  $B_{y=1,new,i,j,survey}$  value updated as per VERRA 6.1 finding received for the project activity

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 2349” sheet submitted where raw ground data of all selected 200 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 clearly states the statistical requirements of 90/10 confidence and precision applied by PP as per the Standard for Sampling and surveys for CDM project activities and programme of activities. The “Verra s6.10operations MP1 2349” sheet submitted has raw ground data of all selected 67 samples with reliability check for parameter ‘ $B_{y=1,new,i,j,survey}$ ’ which was assessed and found that the precision attained for the parameter is 8.09% which is within the chosen 90/10 confidence and precision but it is accepted since this is as per the actual ground data available at the time of first MP. The precision calculations have been provided to the MP01 verifying VVB and same was provided to current MP verifying VVB and hence accepted.
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.

Hence CL#05 is closed

Type	Date	05-September-2024
CL#06	Reference	Section of Ver protocol: MR & ER
Description of the Non Conformance		
<ol style="list-style-type: none"> <li>1. As per PRR received from VERRA the proportion of operational cookstoves within the monitoring period(s) is reported to be 100% (for MP02 &amp; MP03) and 98.96% (for MP04). This is likely unrealistic, given the minimal probability of 100% (for MP02 &amp; MP03) and 98.96% (for MP04) 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.</li> <li>2. As per PRR received from VERRA 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.</li> </ol>		

<b>1<sup>st</sup>Response from PP</b>		<b>Date</b>	05-September-2024	
<p>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 molds 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.</p> <p>PP ensures the IP/ households and village members are aware &amp; 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 &amp; maintenance of project stoves.</p> <p>The proportion of operational cookstoves within the monitoring period(s) is reported to be 100% (for MPO2 &amp; MPO3) and 98.96% (for MPO4). However, as per the stove champion follow up survey conducted in MP3, stoves in operation were 71.20% and as per the stove champion follow up survey conducted in MP4, stoves in operation were 79.04%. As per the secondary data of other projects registered under carbon credit mechanism in the project region, stoves in operation percentage were 90.70%. PP has considered as minimum number of stoves in operation as 71.20% on a conservative basis in ER estimations (for all MPs). The 71.20% stoves in operation rate as per stove champion data has achieved 3.39% precision and is within the required precision (90/10). In support of the value(s) is appropriate, conservative value(s) have been applied, the PP has provided evidence for cross-verifying the proportion of operational cookstoves with the on-ground monitoring raw data to the VVB. Hence, PP has applied the lower proportion of operational cookstoves for all the MPs as a measure of conservative approach.</p> <p>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.</p>				
<b>1<sup>st</sup>Assessment by Audit Team</b>	<b>Status</b>	Closed	<b>Date</b>	18-September-2024
<p>1. As per revised MR and ER sheet submitted to VVB proportion of operational cookstoves within the monitoring period(s) is reported as 71.20%. PP has provided the background evidences such as</p> <ul style="list-style-type: none"> <li>• The <b>stove champion follow up survey</b> conducted in MP3 &amp; MP4, found stoves in operation as 71.20% in MP3 and 79.04% for MP4.</li> <li>• The <b>secondary data</b> of other projects registered under different carbon credit mechanism in the project region, stoves in operation was found as 90.70%.</li> <li>• Respective MPs project database where the proportion of operational cookstove is found to be 100% (for MPO2 &amp; MPO3) and 98.96% (for MPO4).</li> </ul> <p>All these sources of data were assessed and found to be correct. However, PP has considered the minimum number of ICS in operation as 71.20% on a conservative basis in ER estimations (for all MPs) which is more conservative and found acceptable by VVB.</p>				

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.

Hence CL#06 is Closed

<b>Type</b>		<b>Date</b>	DD/MM/YYYY	
FAR		<b>Reference</b>		
<b>Description of the Non-Conformance</b>				
<b>1<sup>st</sup>Response from PP</b>		<b>Date</b>	DD/MM/YYYY	
<b>1<sup>st</sup>Assessment by Audit Team</b>	<b>Status</b>	Open/Closed	<b>Date</b>	DD/MM/YYYY

# APPENDIX D: COMPETENCE STATEMENTS

## Team Leader and Technical Expert T.A. 3.1:



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

### COMPETENCE STATEMENT

Name	Barun Kumar
Nationality	Indian
Countries of Experience	India, South Africa, Kenya, Uganda, DR Congo, Zambia, Madagascar, Fiji
Education Qualification	B.Sc. (Environmental Science and Water Management) M.Sc. (Ecology & Environmental Sciences)
Year of Experience	12 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.2 - Renewables TA 3.1 – Energy Demand TA 6.1 – Construction TA 7.2 – Transport TA 13.1 – Solid waste and wastewater TA 14.1 – Forestry

### 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 (1.2, 3.1, 6.1, 7.1, 13.1, 14.1)	YES
Financial Expert	NO

<b>Reviewed by</b>	Apoorva Gupta (Quality Manager)	<b>Date</b>	08/10/2023
<b>Approved by</b>	Dr. Vikas Kumar Aharwal (Founder & Director)	<b>Date</b>	08/10/2023

Validator/Verifier:



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

### COMPETENCE STATEMENT

Name	Shivani Chauhan
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	03.04.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	03.04.2023

**Local Expert (Republic of Kenya):**


Certification Pvt. Ltd.

VKU.F50W, Competence Statement

**COMPETENCE STATEMENT**

Name	Ms. Hannah Mathile Kitunda
Nationality	Kenyan
Countries of Experience	The Republic of Kenya
Education Qualification	1. Bachelor of Commerce specialisation in Human Resource Management
Year of Experience	1 year
Area of Expertise	NA
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

<b>Reviewed by</b>	Vandana Gupta (Quality Manager)	<b>Date</b>	25/01/2023
<b>Approved by</b>	Vivek Kumar Ahirwar (Technical Manager)	<b>Date</b>	25/01/2023

**Project Trainee:**


Certification Pvt. Ltd.

VKU.F50W. Competence Statement

**COMPETENCE STATEMENT**

Name	Anand Kumar
Nationality	Indian
Countries of Experience	India
Education Qualification	M.Sc. (Environmental Science) B.Sc. (Chemistry Hons.)
Year of Experience	Fresher (Done 3 months Internship in VKU)
Area of Expertise	NA
Eligible Sectoral Scope	NA

**Roles**

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

<b>Reviewed by</b>	Vandana Gupta (Quality Manager)	<b>Date</b>	31/03/2023
<b>Approved by</b>	Vivek Kumar Ahirwar (Technical Manager)	<b>Date</b>	31/03/2023

**Technical Reviewer and Technical Expert T.A. 3.1:**


Certification Pvt. Ltd.

VKU.F50W. Competence Statement

**COMPETENCE STATEMENT**

Name	Sanjay Kumar K
Nationality	Indian
Countries of Experience	India
Education Qualification	B.E. (Civil Engineering) M. Tech (Environmental Engineering)
Year of Experience	20 Years +
Area of Expertise	Climate Change & Environment Sustainable Development GHG Footprints
Eligible Sectoral Scope	TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction

**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 (1.2, 3.1, 6.1)	YES
Financial Expert	YES

<b>Reviewed by</b>	Vandana Gupta (Quality Manager)	<b>Date</b>	03.03.2023
<b>Approved by</b>	Vivek Kumar Ahirwar (Technical Manager)	<b>Date</b>	03.03.2023