INSTALLATION OF HIGH EFFICIENCY WOOD BURNING COOKSTOVES IN MOZAMBIQUE

Document Prepared By

VKU Certification Pvt. Ltd.

Regd. Off: Flat No. 306,Sky Star, N-1, New Rani Bagh Khandwa Road, Indore, Madhya Pradesh, India - 452020
URL: http://vkucertification.com | e-mail:info@vkucertification.com

Project Title	Installation of high efficiency wood burning cookstoves in Mozambique
Version	1.2
Report ID	VKU.VER.119.23_VCS_2351

Report Title	Installation of high efficiency wood burning cookstoves in Mozambique

Client	C-Quest Capital SGS Stoves Private Limited
Pages	64
Date of Issue	27-July-2023
Prepared By	VKU Certification Pvt. Ltd.
Contact	Regd. Off: Flat No. 306, Sky Star, N-1, New Rani Bagh Khandwa Road, Indore, Madhya Pradesh - 452020 URL: http://vkucertification.com e-mail: info@vkucertification.com
Approved By	Dr. Vikas Kumar Aharwal (Founder and Director) vikas.aharwal@vkucertification.com
Work Carried Out By	Vivek Kumar Ahirwar - Team Leader & Technical Expert T.A. 3.1 (Cookstove) Raposo Ernesto Jacinto-Local Expert (Republic of Mozambique) Deepali Sharma -Validator/Verifier Abhishek Kumar Srivastava- Technical Reviewer & Technical Expert T.A. 3.1(Cookstove)

Summary:

M/s VKU Certification Pvt. Ltd. (hereafter referred as VKU) was commissioned by C-Quest Capital SGS Stoves Private Limited (hereafter referred as CQC) to verify the greenhouse gas emission reductions reported for the grouped project activity "Installation of high efficiency wood burning cookstoves in Mozambique (VCS 2351-MP04)", covering monitoring period from 16-September-2022 to 31-March-2023 (both dates included) under fixed crediting period from 27-January-2021 to 26-January-2031 (both dates included) with regard to the relevant requirements for VCS activities.

The purpose of the verification is to have an independent review ex-post determination of the monitored 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 project is:

- To verify that the project is implemented as described in the registered VCS PD/14/.
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

The objective of the verification is to have an independent review ex-post determination of the monitored reductions in GHG emissions. Verification was conducted using VKU's procedures in line with the requirements specified in the VCS program guide version 4.3/3/, VCS standard Version 4.4/4/, VCS validation and verification manual version 3.2/22/, CDM M&P, and CDM Validation & Verification Standard/25/, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques. The verification consisted of desk review, remote audit and the resolution of outstanding issues and the issuance of the final verification report and certification.

VKU followed the rule-based approach to perform this verification. During the course of verification, a total of 04 findings were raised, which includes: 02 Corrective Action Request (CAR); 02 Clarification Request (CL) and 00 Forward Action Requests (FARs). 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)/6/ and the monitoring plan included in the project description, version 2.2 of 09-May-2022.

In conclusion, it is VKU's opinion that the grouped project activity "Installation of high efficiency wood burning cookstoves in Mozambique" VCS project ID 2351, meets all relevant requirements for VCS standard and guidelines and correctly applies the baseline and monitoring methodology VMR0006 "Methodology for Installation of High Efficiency Firewood Cookstoves" version 1.1/6/. The monitoring system is in place and the emission reductions are calculated without material misstatement. Hence, VKU is able to certify that the emission reductions from the project during the fourth monitoring period from 16-September-2022 to 31-March-2023 (both dates included) under fixed crediting period from 27-January-2021 to 26-January-2031 (both dates included) amounts to 69,099 tCO_2e.

CONTENTS

1 INTRODUCTION

1.1 Objective

C-Quest Capital SGS Stoves Private Limited (hereafter CQC) commissioned M/s VKU Certification (hereafter VKU) to carry out the fourth verification of the project "Installation of high efficiency wood burning cookstoves in Mozambique" (VCS 2351) for the period from 16-September-2022 to 31-March-2023 (both dates included).

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

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

The verification is for the fourth monitoring period from 16-September-2022 to 31-March-2023(both dates included) for a period of 6 months 16 days (197 days). The objectives of this verification exercise are, by review of objective evidence, to establish that:

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

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

1.2 Scope and Criteria

The verification scope is:

- To verify that the project is implemented as described in the registered VCS PD/14/.
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.
- The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

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

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

- Desk review of VCS Project Description, registered under version 2.2 on 09-May-2022/14/and other supporting documents listed in Table-03;
- Remote interviews & Focussed Group Discussions with End-Users, Stakeholders & PP representatives involved in project's implementation/21//30/;
- Resolution of outstanding issues and Completeness check and issuance of final verification report and applicable VCS Verification Deed of Representation.

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

1.3 Level of Assurance

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

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

Table 1.0: The verification team and the technical reviewers consist of the following personnel:

Role/Qualification	Last Name	Middle Name	First Name
VCS Team Leader & Technical Expert TA 3.1 (Cookstove)	Ahirwar	Kumar	Vivek
Local Expert (Mozambique)	Jacinto	Ernesto	Raposo
Validator/ Verifier	Sharma	NA	Deepali

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

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

The threshold for quantitative materiality with respect to the aggregate of errors, omissions and misrepresentations, relative to the total reported GHG emission reductions and/or removals was limited to one percent as the project is a large project as per the registered PD/3/, as required by section 4.1.8 of the VCS Standard version 4.4/4/.

1.4 Summary Description of the Project

The grouped project has implemented distribution of 32,262 improved cook stoves (ICS) in provinces Sofala and Tete of Republic of Mozambique until current monitoring period replacing

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

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

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

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

The project's fixed crediting period is from 27-January-2021 to 26-January-2031 (both dates included). For the current monitoring period from 16-September-2022 to 31-March-2023 (both dates included) 32,262 ICSs results in overall reduction of 69,099 tCO2e emission reductions/2/.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide Version 4.3/3/, VCS standard document version 4.4/4/. The GHG emission reductions are on the basis of the approved Baseline and monitoring methodologyVMR0006, version 1.1/6/.

The verification consisted of the following phases:

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

The following sections outline each step in more detail.

2.2 Document Review

During the document review, VKU has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of the monitoring report (MR) version 1 of 28-April-2023, MR version 1.1 of 29-May-2023/1/ and MR version 1.2 of 18-July-2023, the emission reduction (ER) calculations spreadsheet version 1 dated 15-April-2023 and version 1.1 dated 18-July-2023 received from the PP/2/ were

assessed as part of the verification. In addition, the registered VCS Project Document (VCS-PD) /14/ in particular the baseline estimations and the monitoring plan for the project was reviewed. After review of the documents listed below, assessment team confirms the requirements have been met.

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

Table 2: The following table lists the documentation reviewed during the verification:

/1/	CQC: VCS monitoring report for "Installation of high efficiency wood burning cookstoves in Mozambique", version 1 of 28-April-2023, MR version 1.1 of 29-May-2023 and MR version 1.2 of 18-July-2023
/2/	CQC: Emission Reduction Calculation spreadsheet for "Installation of high efficiency wood burning cookstoves in Mozambique", version 1 of 15-April-2023 and version 1.1 dated 18-July-2023
/3/	VCS Program Guide, version 4.3 of 17-January-2023
/4/	VCS Standard, version 4.4 of 17-January-2023
/5/	VCS: Monitoring report Template VCS Version 4.2
/6/	VCS: Link-VMR0006-Methodology for Installation of High Efficiency Firewood Cookstoves v1.1
/7/	CQC: Sample copies of end user agreement between PP and end user
/8/	Result of performance test of ICS as per WBT by Aprovecho Research Center, Test report dated October 2015
/9/	Manufacturer's specification: TLC Brochure - Declaration of ICS life and Efficiency
/10/	UNFCCC: Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities, Ver. 4.0
/11/	UNFCCC: Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 09.0
/12/	Carbon Check: Validation report "Installation of high efficiency wood burning cookstoves in Mozambique" version 04 of 10-May-2022
/13/	Carbon Check: Verification report "Installation of high efficiency wood burning cookstoves in Mozambique" version 1.2 of 25-May-2022

/14/	C-Quest Capital Stoves Asia Limited: Registered PD for the project 'Installation of high efficiency wood burning cookstoves in Mozambique' version 2.2 of 09-May-2022
/15/	CQC: Sample User Survey Form Sample User survey photo taken during survey Sampling _Survey sheet_2351_Mozambique MP3 Attendance sheet and presentation for data collection training during survey
/16/	VERRA: https://registry.verra.org/app/projectDetail/VCS/2351
/17/	CQC: Project installation database
/18/	CQC: Grievance/Repair/Maintenance- Training records
/19/	CQC: Declaration to avoid double counting, non-inclusion of projects in other standards
/20/	CQC: Monitoring Survey Report (30-November-2022 to 17-December-2022)
/21/	Remote Audit Photographs and attendance sheet of remote audit conducted on- 24-May-2023
/22/	Validation and verification manual version 3.2 dated 19-October-2016
/23/	UNFCCC: Project search: https://cdm.unfccc.int/Projects/projsearch.html
/24/	Gold Standard Foundation: https://registry.goldstandard.org/projects?q=&page=1
/25/	CDM Validation & Verification Standard version 09.0 dated 09-September-2021
/26/	VCS Program Definitions version 4.3 dated 21-December-2022
/27/	https://www.ipccnggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch04_Forest%20Land.pdf
/28/	Tool 30 v3.0 - Calculation of the fraction of non-renewable biomass
/29/	GPS map camera (GPS App)
/30/	Interviews conducted during remote assessment on 24-May-2023
/31/	Sampling and calculation sheet of Monitoring Period 3 (30-November-2022 to 17-December-2022)
/33/	Sample Sales Invoice
/34/	VKU's Internal Procedure on Sampling Method & Guidance: VKU.F74A.Sampling Plan

	Method and Guidance
/35/	FVR concluded by VKU Certification Pvt Ltd on 24-March-2023
/36/	Stove Manufacturing Guide for easy maintenance and contact number of Implementor/PP
/37/	Onsite Audit conducted by the same assessment team from VKU in the duration:09-February-2023 to 11-February-2023
/38/	VKU.F56W.Risk Assessment_VKU.VER.117.23_VCS_2351
/39/	Focussed Group Discussion conducted during remote audit by assessment team on 24-May-2023
/40/	CQC: Public Notice for Scope 3 Emissions declared on C-Quest Capital Official website for VCS 2351
/41/	KML File depicting the project boundary of project implemented site: Mozambique
/42/	CQC: The screenshots of the emails sent to stove manufacturers to avoid double claiming of Scope 3 Emissions under this grouped project.

2.3 Interviews

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

Table 3: Key personnel interviewed are mentioned in the table below –

SL.	Date	Name and Role	Organization	Topic
1	24-May-2023	Sanjith Kakkat	CQC-CSAT	Project design, Project start date, description of the grouped project activity, ownership, avoidance of double counting, Emission reductions calculations Monitoring plan and monitoring arrangements Data recording, QA/QC procedures. ICS operational status, commissioning details, project investment etc.
2	24-May-2023	Lambos Moiane	CQC	
3	24-May-2023	Dorcelina F. Luis Antonio	CQC	
4	24-May-2023	Akhilesh Joshi	CQC-CSAT	

				Implementation Status, Training to maintain cookstove, Spot-checking mechanism, Documentation, Benefits of the project, social and environmental impacts

Table 4: The stakeholders interviewed are mentioned in the table below –

SL.	Date	Name and Role	Topic
1	24-May-2023	Manuel Vidazao	Description of the grouped project activity, its monitoring plan and procedure of cookstove distribution, monitoring survey Do they receive their salary on time or not and whether the salary given meets the minimum wage requirement of the country.
2	24-May-2023	Andrade (Coordinator and compliance of Energy Africa- EGA)	

It is to note that this verification is a repeat verification as VKU Certification also performed the previous verification for the 3rd Monitoring Period (01-March-2022 to 15-September-2022). Hence, for this particular verification, the end users interviewed during the previous monitoring period are applicable and have been notified in the table below. It is also to note that in this particular monitoring period, no ICS distribution was carried out. So, VKU assessment team concludes that end-users interviewed during the previous monitoring period are still applicable.

Table 5: The end users interviewed (during previous verification) are mentioned in the table below.

S.No.	Date	Name and Stove ID	Topic
1.	09-February-2023 to 11-February-2023	Catarina Limao (Stove 1 ID CQCVMZ0010636, Stove 2 IDCQCVMZ0010660)	• On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) • Check the baseline scenario (cooking practice prior to the project stove installation)

2.	09-February-2023 to 11-February-2023	Dedinha Carlos (Stove 1 ID CQCVMZ0018746, Stove 2 ID CQCVMZ0018745)	• On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) • Check the baseline scenario (cooking practice prior to the project stove installation)
3.	09-February-2023 to 11-February-2023	Florencia Horacio (Stove 1 ID CQCVMZ0018621, Stove 2 ID CQCVMZ0018618)	• On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) • Check the baseline scenario (cooking practice prior to the project stove installation)
4.	09-February-2023 to 11-February-2023	Anagilda Domingos (Stove 1 ID CQCVMZ0018495, Stove 2 ID CQCVMZ0018492)	• On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) • Check the baseline scenario (cooking practice prior to the project stove installation)
5.	09-February-2023 to 11-February-2023	Julia Arapoio (Stove 1 ID CQCVMZ0018378, Stove 2 ID CQCVMZ0018377)	• On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) • Check the baseline scenario (cooking practice prior to the

			project stove installation)
6.	09-February-2023 to 11-February-2023	Regina Lospe (Stove 1 ID CQCVMZ0034900, Stove 2 ID CQCVMZ0034969)	• On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) • Check the baseline scenario (cooking practice prior to the project stove installation)
7.	09-February-2023 to 11-February-2023	Sara Esperanca (Stove 1 ID CQCVMZ0028503, Stove 2 ID CQCVMZ0028504)	• On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) • Check the baseline scenario (cooking practice prior to the project stove installation)
8.	09-February-2023 to 11-February-2023	China Eduardo (Stove 1 ID CQCVMZ0019348, Stove 2 ID CQCVMZ0019349)	• On-site Interview on the number of project devices operating during the year y ($N_{y,i,j}$) • Check the baseline scenario (cooking practice prior to the project stove installation)

2.4 Site Visits

On site visit exclusion justification:

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

The project activity is the distribution and installation of the fuel-efficient improved cookstoves (ICS) in Mozambique. The previous monitoring survey was conducted between 30-November-2022 to 17-December-2022(both dates included) during MP 3 and since then, no distribution/implementation has been done and it fulfils the monitoring requirement as stated in the applied methodology/6/. However, VKU’s same assessment team conducted onsite visit during the third monitoring period in the month of February 2023 which was near to the end of fourth monitoring period (16-September-2022 to 31-March-2023(both dates included)). During the fourth monitoring period, remote interviews with PP was conducted, and no new information has been identified. Thus, VVB decided not to conduct the onsite visit for fourth monitoring period and notified VERRA for the remote audit through Notice of Validation/Verification Services (NOVS) form however VVB has ensured that a reasonable level of assurance was maintained with following:

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

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

The following verification procedure will be used by VKU:

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

The assessment process makes use of to comprehend the:

1. VCS PD and associated VCS specifications
2. Identify the baseline scenario,
3. Implement the VCS project,
4. Develop a monitoring strategy,
5. Monitoring of data and parameters,

6. Application of any sample plans,
7. Verification of data/evidence collection and management, etc.
8. Evidence accessibility and a grievance resolution process
9. Ongoing communication with the stakeholders

Development of the Verification/Sampling Plan:

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

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

Remote interviews:

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

Table 6: Step 1- Identification of Materiality threshold

Check the relevant box against applicable threshold level	Threshold as per Section 4.1.8 of VCS Standard v4.4/4/	Related to
☒	1 %	Materiality threshold was fixed at 1% as per Section 4.1.8 of VCS Standard v4.4 by the assessment team as the project is a large project as per registered VCS PD/4/. Quantitative materiality, as per reporting

		standards, dictates that the threshold for materiality concerning the aggregate of errors, omissions, and misrepresentations, either individually or in combination, for any reported value in relation to total reported GHG emission reductions and/or removals assets, should not exceed one percent. In other words, discrepancies below this one percent threshold are considered immaterial and do not significantly impact the overall reporting accuracy. The verification of the stated materiality threshold is conducted through the PP's sampling survey (referenced as /22/) and the acceptance sampling performed by the assessment team. These assessments revealed that the proportion of non-working stoves observed was lower than anticipated, leading to a reduction in uncertainty. Based on these findings, the reported results were accepted as valid and in compliance with the established materiality criteria.

Table 7: Step 2- Identification of risks, their level and assessment

S.No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the potential risk		Assessment of the records/information/interview with personnel to check controls/ mitigation measures
		Risk level	Potential actions causing risk	
1.	Monitoring parameter	High	Monitoring not done as per the registered PD	The risk was mitigated by reviewing the claims in the VCS PD, Monitoring Plan and its assessment based on VCS requirements. The plausibility of the related monitoring parameter can be further cross-checked with the project specific evidence, related to the host country/region and interviews with the related stakeholders (end

				users/beneficiaries). Interviews conducted by Verification team with Promoters/30/also confirmed the monitoring procedures were in line with the registered monitoring plan/14/.
2.	Project design: Information on project design 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 was mitigated by reviewing the claims in the VCS PD/14/and its assessment based on VCS requirements. The background documents including monitoring survey report/15/ (such as those related country specific f_{NRB} study) shall be cross-checked with the project specific evidence, related to the host country/region and interviews/30/ with the related stakeholders. Leakage is considered as default 0.95 in accordance with methodology/6/.
4.	Accuracy of the monitoring survey	Mediu m	Inadequately delineated monitoring plan may lead non-compliance of the VCS principle	The risk due to accuracy of the monitoring plan will be ensured by reviewing the VCS PD/14/, VCS requirements, sampling tool applied and ensuring feasibility/appropriateness of the monitoring plan by means of remote interviews with the PP, their associates and the end users.
5.	Competence of personnel involved in conducting monitoring like surveys	Mediu m	Interview of the personnel involved and check the training records conducting such monitoring.	The risk was mitigated by reviewing the training records/18/ of the personnel involved in the conducting such surveys and by following the monitoring responsibilities. The training records will be reviewed which will also be confirmed during the interviews/30/.

Sampling Plan:

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

☒	No sampling approach has been used by the VVB to verify the project's compliance with SD Vista requirements.
☐	A sampling approach has been applied by the VVB to verify the project's compliance with VCS requirements for the aspects derived in step 2 above. The statistical approach of sample size (i.e.,08) calculation is provided below.

Based on its professional judgement and observation during the prior MP 3 acceptance sampling and remote interviews during the fourth monitoring period, the verification team arrived at its judgement and conclusions. The assessment team concluded that a site visit to the project activity is not required under Section 4.1.9 of VCS Standard v4.4/4/, assessment team identified the same on the basis of the independent risk assessment/38/ conducted as a part of pre-site activities. The risk assessment identified the risk of a material misstatement or nonconformity with the audit criteria. The rationale for the decision is based on the fact that the same assessment team from VKU conducted the previous onsite verification (3rd MP from 01-March-2022 to 15-September-2022) in the month of February 2023 which was near to the end of fourth monitoring period (16-September-2022 to 31-March-2023(both dates included)). Moreover, no ICS distribution took place during the current monitoring period from 16-September-2022 to 31-March-2023 (both dates included). The previous sampling survey conducted by PP during the MP 3 between 30-November-2022 to 17-December-2022(both dates included) is valid and it fulfils the monitoring requirement as stated in the applied methodology/6/ and VCS PD/3/. Hence, VKU assessment team is of the opinion that remote site visit can be conducted on the basis of interview with concerned personnel and stakeholders through online mode.

2.5 Resolution of Findings

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

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

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

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

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

In summary, 02 CLs,02 CARs and 00 FARs were raised during this verification which were closed successfully and details are given under Appendix C of this report.

2.5.1 Forward Action Requests

Based on the review of the validation report /12/ and previous verification report/13//35/, no FAR was found to be raised which needs to be closed during this verification. No FARs were raised in current monitoring period.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and 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 parallelly by other certification bodies, as the same was confirmed with focussed group discussions/39/ and interview with the PP /30/ during remote visit. Assessment team assessed the VERRA's website on 27-July-2023: https://verra.org/validation-verification/vku-certification-pvt-ltd/#vcs wherein the scope of services of VKU certification Pvt. Ltd. is mentioned as verification and not validation. Thus, ensuring that the accreditation details mentioned in FVR is consistent and correct.

3 VALIDATION FINDINGS

The project is already registered under VCS with reference number 2351/16/. The validation/12/and 1st verification of the project was done by Carbon Check (India) Pvt Ltd/13/ and it was registered under the VCS registration reference no. 2351.The 2nd verification of the project was concluded by VKU Certification Pvt Ltd on 18-March-2023/35/ and third verification was concluded by VKU Certification Pvt Ltd on 23-March-2023.The fixed crediting period is from 27-January-2021 to 26-January-2031 (both dates included). This verification assessment is for the fourth monitoring period from 16-September-2022 to 31-March-2023 (both dates included).

3.1 Participation under Other GHG Programs

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

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

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

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

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

Rejection by other GHG programs

The Project is not rejected by other GHG programs. The assessment team as part of double counting diligence explained above, also checked for rejection by any other registries to confirm the same. The details of the registries checked are as follows:

1. http://cdm.unfccc.int/
2. http://www.goldstandard.org/
3. https://verra.org/verra-standards-and-programs/

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

3.2 Methodology Deviations

No methodology deviation has been applied during the current monitoring period from 16-September-2022 to 31-March-2023 (both dates included). Also, there were no deviations identified during the previous verification which were confirmed from the previous verification reports/13//35/.

3.3 Project Description Deviations

The project activity ownership changed to C-Quest Capital SGS Stoves Private Limited for this project activity and applicable from Communications Agreement dated 07-September-2022 and Accession Representation dated 11-January-2023.The relevant document for change in company name and corresponding change in communication agreement to VCS has been provided. The same has been approved by the registry and confirmed from the VERRA website[1].

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

3.4 Grouped Project

The grouped project (the project) is the dissemination of energy efficient stoves for cooking purposes. A total of 32,262 ICS were disseminated by the end of this monitoring period.

Table 8: The Monitoring Period wise distribution is shown below-

[1]https://registry.verra.org/app/projectDetail/VCS/2351

Date of first ICS installed	27-January-2021
No. of instances added/ICS installed during 1st MP	15,544
No. of instances added/ICS installed during 2nd MP	16,660
No. of instances added/ICS installed during 3rdMP	58
No. of instances added/ICS installed during 4thMP	0
Total no. of ICS distributed till end of 4th MP (31-March-2023)	32,262

The volume of ICS distributed in this monitoring period is 0 that is not in accordance with ex-ante volume anticipated in the registered document. However, during third monitoring survey/20/ conducted by PP, it was found that 100% stoves were operational. Also, during onsite visit of the previous verification, assessment team found all stoves were operational and found non-use of the baseline stoves by any of the end-user households sampled by VVB. Hence,100% stoves were considered to be operational during the current monitoring period resulting in higher emission reductions than anticipated.

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

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

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

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

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

Table 9: - Eligibility Criteria for new project activity instances

Key Element	Requirements /22/	Verification team Assessment
Geographic Areas	VVBs must ensure that the project description clearly identifies the geographic areas within which new instances may be added. Geographic areas must be defined using geodetic polygons and provided in a KML file. Such geographic areas need not be contiguous and may be large or small, noting the grouped project requirements for additionality and baseline assessments of the geographic area.	The verification team reviewed the sales record database /20/ and by further conducting interviews/30/ with representatives of PP to confirm that all new project activity instances are located within the geographical area identified in the registered VCS PD /14/. All new project activity instances are located within the host country of Republic of Mozambique. /17/ This was found to be appropriate to the verification team and in line with the registered VCS PD/14/. Thus, the requirements of this key element are met.
Identification of baseline scenario and demonstration of additionality:	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	The verification team reviewed the sales record database /20/, conducted interviews/30/ with representatives of PP and further based on its sectoral expertise confirms that baseline scenario is the continued use of non-renewable wood fuel (firewood) by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity for each project technology and geographic area, as identified in section 3.4 of the VCS PD /14/, 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/14/ and Validation Report/12/. Thus, it has been demonstrated that for each project activity instance included in grouped project • Baseline scenario exists (corresponding

	decision if they are to be included in a single project.	to the project technology) for the entire geographical area • the requirements of additionality are being complied with for the entirety of geographic area (Republic of Mozambique) within which they are installed. It can be further confirmed from the registered PD/14/ and Validation Report/12/. This was found to be appropriate to the verification team, based on the evidences and fulfilment of eligibility criteria. Thus, the requirements of this key element have been met by all the new project activity instances added to the grouped project.
Eligibility criteria	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	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 /14/. The sampling survey sheet questionnaire is attached in Appendix B of the FVR for further reference. 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/14/) 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. This was found 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.

	determinations could be made when validating new instances. Eligibility criteria must also conform to any restrictions set out in the methodologies applied.	
Monitoring and GHG information system	VVBs must ensure that the project has an appropriate monitoring plan that 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.	The verification team reviewed the VCS MR /1/ and further conducted interviews/30/ with representatives of PP to confirm that the monitoring plan and procedures mentioned therein is in conformance to the requirements laid out in the VCS PD /14/, 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 1.1/6/, 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/14/ this is deemed to be acceptable to the verification team. Refer to section 4.1 below for detailed discussion on monitoring activities. This was found to be 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	The verification team reviewed the MR /1/, sample end user agreements/7/ for new

<table>
<tr>
<td></td>
<td>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.</td>
<td>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 methodologies/6/. 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 methodologies.
<table>
<tr><th>Capacity Limit of each ICS</th><th>Capacity Limit of Project</th></tr>
<tr><td>180$GW_{hth/y}$</td><td>180 $GW_{hth/y}$*32,262= 58,07,160 $GW_{hth/y}$</td></tr>
</table>
The expected annual energy saving for each project activity instance is approximately 0.0104 $GW_{hth/y}$ or 0.01% of the limit. The calculation is provided in the ER Sheet/2/.
As the annual energy saving is below 1% of the limit, therefore no project activity instance is identified and divided into clusters. Hence, it is concluded that no PAI has crossed or is expected to cross the limit
This was found to be 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.</td>
</tr>
</table>

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 remote assessment and monitoring results of PP conducted during third monitoring period, the audit team confirms the project implementation and operation complies with the PD/14/. The purpose of the project is to disseminate efficient, improved cooking stoves (ICS) in rural households of Mozambique. 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 Mozambique is the use of the three-stone fire cooking, popularly known as conventional method using firewood. The project thus reduces greenhouse gas (GHG) emissions by replacing traditional wood-fuel by ICS. The replacement of conventional method by ICS improves heat transfer to the cooking utensil thereby reducing the amount of fuel (non-renewable biomass) required for cooking.

A reduction in consumption of non-renewable biomass contributes towards reduction in GHG emissions into the atmosphere. Thus, ICS reduce GHG emissions through their improved thermal efficiency as compared to traditional/baseline stoves. This project is implemented by Practical Action (PA)/15//18//20/. Users transfer the ownership of carbon credit via end user agreement /7/. The operational and management structure is verified from document review and remote interview/30/. The verification team confirms that during the current monitoring period i.e.,16-September-2022 to 31-March-2023 (both dates included) the VCS grouped project has disseminated 32,262 ICS implemented in Mozambique/17/.

The first stove was installed on 27-January-2021 and is also verified from project installation database/17/ and validation report/12/ and end user agreement/7/ and was found to be accurate. The ICS promoted under the project have 10 years technical life /9/ and initial tested efficiency of ICS was 34.5 %. This was further confirmed by the verification team by the TLC Brochure/9/ submitted by the PP. During this fourth monitoring period operational status of total 32,262 ICS were taken into consideration and remote interviews of personnel/30/ and third monitoring survey conducted by PP between 30-November-2022 to 17-December-2022 (both dates included) confirmed a 100% operational rate /2/. PP has considered the average usage rate of ICS being captured during the recent monitoring survey. As per PP's survey, the average usage rate of ICS per week is 6.854.

The monitoring survey from the third monitoring period is applicable in this monitoring period as per Section 5.3 of VCS PD dated 09-May-2022, the monitoring survey conducted by PP is valid as the frequency prescribed for monitoring survey in the monitoring plan is Annual/Biennial. Additionally, the methodology VMR0006 suggests (page number 15, section 9.2) conducting a monitoring survey at least once every two years. The operational rate was further confirmed by the section 9.2 of applied methodology, "Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$) can be measured directly or based on representative sample." So, to measure Ny,i,j, PP multiplied the achieved proportion with commissioned stoves that is 100% x 32,262= 32,262.

The monitoring period wise distribution is shown in Table 8 of this report.

Table 10: To show the easy facilitation of the implementation of project, the table shown below depicts the stove distribution status per each Province of Mozambique.

Name of province	Number of cookstoves installed till the end of monitoring period (31-March-2023)
Sofala	2,670
Tete	29,592
Total numbers of stoves installed in Mozambique under the project	32,262

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

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

During the interviews/30/, it was found that if the stove owners are unsuccessful in stove repairing, stove owner can contact the ground staff of PP/implementor over phone (phone number is provided to the stove owner upon stove registration) in the TLC brochure/36/and the field staff notify the implementer to provide the necessary assistance.

It is noted that no changes have been observed or identified during the remote audit which may impact the additionality, no addition of component nor extension of technology, no addition nor removal of project sites, no change of values of the actual operational parameter relevant to determination of emission reductions which are within the control of the PP; no change has been observed or identified that may impact the scale of thegroupedproject activity or applicability of baseline and monitoring methodology VMR0006 “Methodology for Installation of High Efficiency Firewood Cookstoves” version 1.1/6/.

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

Table 11: Data parameters fixed ex-ante and available at validation are given below:

	Data/parameter	Unit	Value	Assessment

			applied	
1	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass (fNRBy)	Fraction	0.81	The value has been calculated in accordance with Tool 30 version 3; using latest available versions of Food and Agriculture Organization (FAO) report, UN Data and other publicly available data that have been published by reliable sources. The value is fixed as per registered PD/14/ for the entire crediting period.
2	Net calorific value of the non-renewable woody biomass that is substituted or reduced (NCVwood fuel)	TJ/tonne	0.0156	It is IPCC default value verified from 2006 IPCC Guidelines for National Greenhouse Gas Inventories/27/; Volume 2 Energy, Chapter 1 Introduction. Further, this is a default value as stated in the VMR0006 Methodology, version 1.1/6/.
3	CO2 emission factor for the use of wood fuel in baseline scenario (EFwf,CO2)	tCO2/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/14/ for the entire crediting period.
4	Non-CO2 emission factor for the use of wood fuel in baseline scenario (EFwf,non CO2)	tCO2/TJ	26.23	It is IPCC default value from 2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion. This value is fixed ex-ante during validation /12/

5	Efficiency of baseline cookstove(η_{old})	Fraction	0.1	A default value of 0.1 shall be used if baseline device is a three-stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney. Further, this is a default value as stated in the VMR0006 Methodology, version 1.1/6/.
6	Efficiency of project stove at the start of project activity(np)	Fraction	0.345	As per manufacturer specification/9/. Consistent with the registered PD /14/. This has been validated during registration as well /12/.

Table 12: Data and parameters monitored

Parameter	Value	Description/Assessment
Number of project devices of type i and age a that are operating in year y Ny,i,i	32,262	Cross-check of a sample of project participants' samples (questionnaire operation surveys/remote interviews) including but not limited to following: • Consistency between the information as contained in previous monitoring period's Survey sheet and revealed from the on-site interviews • Baseline scenario of the household • Enquire/observe the pre-project/baseline stove/s and its operation during the project scenario
Efficiency of the	For Vintage 1:	This parameter has been calculated

improved cookstove type i and batch j during year y (ηnew,I,j)	32.43% For Vintage 2: 32.11 % For Vintage 3: 31.78%	using equation 5 of the applied methodology/6/. The applied efficiency is correct as per the methodology requirement and registered VCS PD /14/ and hence accepted.
Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j, determined in the first year of the implementation of the project through a sample survey.$\mathbf{B_{y=1,new,i,j,survey}}$	1.1023	In accordance with the applied methodology/6/ and registered VCS PD/14/, the parameter is determined during the first verification and fixed for the remaining crediting period. 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 1 and /31/ for determination of wood consumption for checking the consistency of values used - Confirms it was demonstrated that the consumption of biomass for individual project stoves can be measured exclusive of one another (for two pot stoves) - Confirms that PP has used the value which was verified by VVB during the Monitoring Period 1 and accepted by Verra through issuance of Monitoring Period 1 Verification Report/13/.
Life Span	10 years	As per manufacturer specification/9/. Value was fixed once at the time of project stove installation. It is consistent with the registered VCS PD /14/.

Assessment team concludes the following:

- There are no material discrepancies between project implementation and the project description found in current monitoring period.
- The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters) is appropriate.
- There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/6/.
- The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation/12/ or previous verification /13//35.
- The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading/19/.
- According to VCS Standard 4.4/4/, specific guidelines are applicable when the producer(s) or retailer(s) of the impacted good or service are identified but not involved in the project or do not possess a website. The distribution agent has been informed by the Project Proponent (PP) that Verified Carbon Units (VCUs) may be issued for the greenhouse gas emission reductions and removals achieved through this grouped project. The PP intends to claim carbon credits under VERRA. To support the current project verification, the PP has submitted evidence in the form of emails and a public statement, which can be found in Appendix-B of the monitoring report (MR/1/). This evidence confirms that the PP has communicated with suppliers to prevent any double counting of emission reductions. /40//42/.
- The grouped project activity complies with seven indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR /1/. Assessment team has verified the same during remote site visit/21/ and found all the indictors to be effective and applicable for the grouped project activity. SDG Indicators taken by PP are-
    - ✓ **4.3.1 i.e. (Number of individuals who received any informal training)** Vocational training and project related training with respect to successful implementation of programme, appropriate methods of conducting surveys, carrying out maintenance activities etc. in addition to issues related to climate change was provided to at least 4 individuals associated with the project. Assessment team has verified training documents/18/.

- ✓ **7.1.2 i.e. (Proportion of population with primary reliance on clean fuels and technology)** Increasing access to clean cooking technology by distributing a set of project stoves in 16,131 households. Assessment team verified the same through Sampling _Survey sheet_2351_Mozambique MP4/15/ and remote audit/21/.

- ✓ **8.3.1 i.e. (Proportion of informal employment in non-agriculture employment, by sex)** A total of 5 individuals were directly and indirectly employed under the project activity during the current monitoring period in Country for various activities related to project implementation, maintenance, and monitoring. Assessment team verified the same through training records of employees/18/.

- ✓ **13.0 i.e. (Tonnes of greenhouse gas emissions avoided or removed)** Due to installation of this project activity, PP has prevented the release of 69,099 tCO_2 eq emissions in the current monitoring period into the atmosphere. Assessment team verified the emissions reductions for the project through ER spreadsheet/2/.

- ✓ **15.2.1 i.e. (Progress towards sustainable forest management by increasing above ground biomass in forests)** The project has resulted in saving of 40,941 tons of biomass in 16,131 households during the current monitoring period. Assessment team verified the same through ER spreadsheet/2/.

- ✓ **3.9 i.e. (Reduction in PM 2.5 emissions)** Annual emission of PM 2.5 is reduced by 47% in project households. For the 16,131 households which have received 2 stoves each. The same is evidenced from survey results/15/ which show that100% of the respondents felt reduction in smoke and soot levels near the cooking area and 97% of respondents experienced reduced levels of itchiness of eye associated with cooking on open fire. Assessment team verified the response of HH through Sampling _Survey sheet_2351_Mozambique MP3/15/.

- ✓ **5.4.1 i.e. (Proportion of time spent on unpaid domestic and care work, by sex, age, and location**) The project survey results augment the above claim as 72% of the respondents reported to having experienced fewer trips for wood collection freeing up their time for other activities. Assessment team verified the response of HH through Sampling _Survey sheet_2351_Mozambique MP3/15/.

In view of the information as verified above the assessment team is able to conclude that the grouped project has been implemented as described in the registered VCS PD/14/, All the above stated information was verified by VVB during Remote Audit/21/ and personnel interviews /30/.

Table 13: Assessment of the audit history is as below-

Audit Type	Monitoring Period	Program	VVB Name	Number of years	VCUs Issued	Conclusion
Validation	Not Applicable	VCS	Carbon Check (India) Private Ltd	Not Applicable	Not Applicable	Ok/12/
Verification	27-January-2021 to 31-August-2021(both dates included)	VCS	Carbon Check (India) Private Ltd	0 years, 7 months, 5 days.	8,265 tCO_2e	VKU's assessment team has cross verified the emission reductions reported in the monitoring report for MP 1 along with the verification report for MP 1 and VCU's issued were cross verified from the VCU's issuance record link available on the project webpage/16/.
Verification	1-September-2021 to 28-February -2022(both dates included)	VCS	VKU Certification Pvt.Ltd.	0 years, 6 months, 0 days.	51,464 tCO_2e	VKU's assessment team has concluded the monitoring report and verification report for MP 2 on 18-March-2023.
Verification	1-March-2022 to 15-September-2022(both dates included)	VCS	VKU Certification Pvt.Ltd.	0 years, 6 months,15 days.	71,996 tCO_2e	VKU's assessment team has concluded the monitoring report and verification report for MP 3 on 24-March-2023.

Verification	16-September-2022 to 31-March-2023(both dates are included)	VCS	VKU Certification Pvt.Ltd.	0 year, 6 months, 16 days	69,099 tCO_2e	VKU's assessment team has assessed and verified the current (MP-4) MR and prepared Verification Report for MP 4 and concluded a positive verification statement for the current verification period.
Total	27-January-2021 to 31-March-2023(both dates are included)	VCS		2 years, 2 months, 05 days.	200,824 tCO_2e	Ok

4.2 Safeguards

4.2.1 No Net Harm

The project involves use of improved cooking stove in households replacing conventional cooking stoves. Therefore, the project results in avoidance of CO_2 emissions due to improvement in efficiency as verified from the manufacturer's specification/9/. Therefore, there is no negative environmental impact from the grouped project activity. In addition, due to the grouped project activity, jobs are created on local level as verified during remote audit interview/30/ which has improved socio-economic impacts in the project area. The project is neither involved in any activity that would bring environmental deterioration nor will lead to any emission of toxic substances. The project stoves will rather reduce emissions due to the increased thermal efficiency compared to the baseline stoves. Any leakage is accounted in the VMR0006 V1.1 Methodology/6/. Leakage is considered as default 0.95 in accordance with methodology/6/.

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

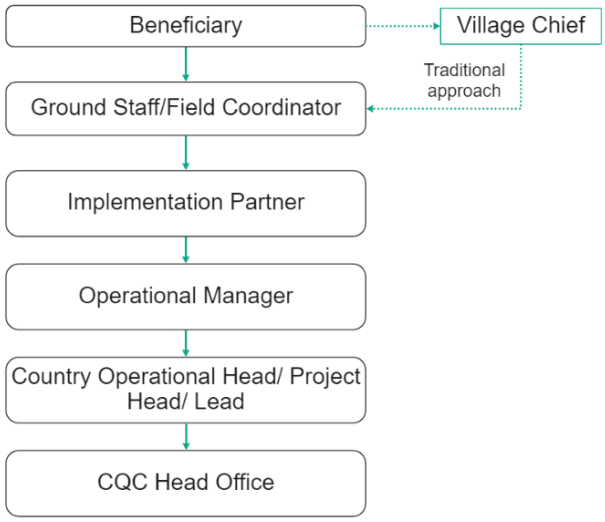
4.2.2 Local Stakeholder Consultation

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

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

The Project Proponent has reported its feedback and grievance redressal procedure in Section 2.2 of the MR /1/, and the policy is outlined in the document "Grievance Redressal Mechanism"/36/. In the opinion of assessment team, based on interviews/30/ and observations, the grievance redressal procedure will address issues that may arise during project planning and implementation. The grievance redressal process has been designed where beneficiaries and stakeholders have PP contact information and the understanding that they should contact the organization with any problems, questions, or grievances.

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



Flow of information/complaint/grievances from stakeholder to PP

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

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

4.3 AFOLU-Specific Safeguards

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

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

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

Baseline Emission:

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

Where:

i	=	Indices for the situation where more than one type/model of improved cookstove is introduced to replace three-stone fire
J	=	Indices for the situation where there is more than one batch of improved cookstove of type i
ER_y	=	Emission reductions during year y in t CO_2e
$ER_{y,i,j}$	=	Emission reductions by improved cookstove of type i and batch j during year y in t CO_2e

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times f_{NRB,y} \times \left(EF_{wf,CO2} + EF_{wf,non\ CO2}\right) \times N_{y,i,j} \times 0.95$$ Equation (2)

Where:

$B_{y,savings,i,j}$	=	Quantity of woody biomass that is saved in tonnes per improved cookstove of type i and batch j during year y
$f_{NRB,y}$	=	Fraction of woody biomass that can be established as non-renewable biomass (f_{NRB})

$NCV_{wood\ fuel}$	=	Net calorific value of the non-renewable woody biomass that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/tonne)[2]
$EF_{wf,CO2}$	=	CO_2 emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 112 tCO_2/TJ)[3]
$EF_{wf,non\ CO2}$	=	Non-CO_2 emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 26.23 tCO_2/TJ)[4]
$N_{y,i,j}$	=	Number of improved cookstoves of type i and batch j operating during year y
0.95	=	Discount factor to account for leakage

To calculate $B_{y,savingsi,j}$, PP useequation 4 of the applied methodology[5]

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

Where:

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

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

$\eta_{new,l,j}$ 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:

η_p Efficiency of project stove (fraction) at the start of project activity

$(DF_n)^{y-1}$ Discount factor to account for efficiency loss of project cookstove per year of operation (fraction). default value of 0.99 efficiency loss per year has

[2]2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 1 Introduction

[3]2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion

[4]2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion

[5]Equation 4 of methodology VMR0006, version 1.1

	considered for the project activity
0.94	Adjustment factor to account for uncertainty related to project cookstove efficiency test

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

Sampling approach: -

As assessed in this section, emission reductions for the project "Installation of high efficiency wood burning cookstoves in Mozambique" are being claimed for this monitoring period and the total population of the stoves for the current monitoring period i.e.,16-September-2022 to 31-March-2023 (both dates included) is 32,262 ICS.

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

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

PP has provided the detailed sample size calculation under section 4.3 of the MR/1/.

Table 14: PP's Sample size calculation

Definition	Value	Justification
The population size N is	1st MP:15,544 2nd MP; 16,660 3rd MP: 58 4th MP: 0 Total:32,262	Number of stoves registered in database
The expected proportion p for ny,i is	0.85	A conservative assumption of 85% is applied for sample size calculation.

Sample size	47.723	Calculated
Sample size (Rounded up)	48	Calculated
Total Sample selected short listed	69	Including 30% non-response

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

$$n \geq \frac{1.645^2 \times 32{,}262 \times 0.85(1-0.85)}{(32{,}262-1) \times 0.1^2 \times 0.85^2 + 1.645^2 \times 0.85(1-0.85)} = 47.68$$

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

Retention rate of improved cookstove (proportion parameter) –

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

(a) The expected value of the proportion parameter;

(b) The level of precision and confidence in that precision (90/10 reliability criterion).

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

In the registered VCS-PD /14/, section 5.3, the expected proportion value was assumed to be 0.8 expecting that the 80%of the ICS still in operation (was just an example to show how PP will calculate the sample size using the formula mentioned in VCS-PD). During this MP verification, 0.85 has been chosen as proportional parameter by PP, considering 85% of ICS will be operational. The confidence /precision level is 90/10 but PP has taken the assumption of 85% as a more conservative approach as PP is assuming only 85% ICS to be operational, although as found from the actual sampling survey conducted by the PP/15/,100% ICS were operational. Hence, the rejection level is under 10% and within the limits. Sample size, thus arrived, meets the relative precision error i.e., under 10%. However, actual proportion of ICS in operation is observed as 100% during the previous verifications, 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 third monitoring survey during the period of 30-November-2022 to 17-December-2022 (both dates included) in Mozambique. The monitoring survey from the third monitoring period is applicable in this monitoring period as per Section 5.3 of VCS PD dated 09-May-2022, the monitoring survey conducted by PP is valid as the frequency prescribed for

monitoring survey in the monitoring plan is Annual/Biennial. Additionally, the methodology VMR0006 suggests (page number 15, section 9.2) conducting a monitoring survey at least once every two years. During the survey it was found that 100% project devices are in operation, and this was further confirmed by the Verification team from the submitted sampling survey sheet/15/and photographs from the survey/15/. Assessment team conducted acceptance sampling based on the sampling and survey sheet/15/ submitted by the PP.

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

100% x 32,262= 32,262

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

Table 15: The resultant applied sample size by the PP are summarized below:

Parameters	$N_{,y,i,j}$
Sample size -ICS	48
Actual Samples Surveyed (each household has 2 ICS)	96
ICS found operating	100%
Precision achieved	0.00%

During the MP 3 Verification, 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 /11/, a sample size of 08 ICS was chosen (with no discrepant records). The grouped project activity is located in a least developed country -Mozambique. A sample size of 08 was determined, based on an AQL of 1.0% and UQL of 20%, producer risk 10% and consumer risk 20%. Acceptance number (c) thus determined for the sample is 0 in line with para 30 and 31 of "Sampling and Surveys for CDM project activities and programme of activities" version 09.0.

It is also in line with VKU's Internal Procedures/34/. Verification team inspected 08 samples and in total-16 ICS samples (since each household has 2 ICS, from monitoring survey). It was observed that out of the 16 samples, all the 16 stoves were found to be operational and this matched with the PP's records and hence no discrepant records were observed with the MR /1/ and ER spreadsheet /2/ and thus c=0. Thus, PP's set of records has been accepted in line with para 33 of the sampling standard, version 09 /11/. Verification team has cross verified these sample documents.

During the MP 3 Verification, 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 /11/, a sample size of 08 ICS was chosen (with no discrepant records). The grouped project activity is located in a least developed country [6]-Mozambique. A sample size of 08 was determined, based on an AQL of 1.0% and UQL of 20%, producer risk 10% and consumer risk 20%. Acceptance number (c) thus determined for the sample is 0 in line with para 30 and 31 of "Sampling and Surveys for CDM project activities and programme of activities" version 09.0. It is also in line with VKU's Internal Procedures/34/. Verification team inspected 08 samples and in total-16 ICS samples (since each household has 2 ICS, from monitoring survey). It was observed that out of the 16 samples, all the 16 stoves were found to be operational and this matched with the PP's records and hence no discrepant records were observed with the MR /1/ and ER spreadsheet /2/ and thus c=0. Thus, PP's set of records has been accepted in line with para 33 of the sampling standard, version 09 /11/. Verification team has cross verified these sample documents.

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

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

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/14/. 90/10 is a methodological choice/6/.

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

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

(a) Whether the required confidence/precision has been met;

(b) Whether the selected sample was representative of the population.

As per the applied methodology VMR0006 version 1.1 section 9.2 /6/, and registered VCS PD /14/ the necessary confidence / precision of 90/10 for the parameters have been met.90/10 is a methodological choice/6/ and has been cross verified by the verification team from the supporting documents submitted/2//15/.
Emission reductions have been calculated in accordance with the applied methodology VMR0006 version 1.1 /6/, and VCS PD /14/. The PP has used monitored data and ex-ante fixed

[6]Least Developed Country-Mozambique

data including default values as mandated/permitted by the applied methodology. The values used for calculation of GHG emission reductions have been thoroughly checked by the verification team and was found appropriate and correct.

The full set of emission reductions calculation are provided in emission reduction spread sheet/2/. ER_y realized during the monitoring period is 69,099 tCO2ewhich are 15.83% higher than the estimated emission reduction i.e., 59,658 tCO_2e for the current monitoring period due to 100% ICS were found operating during the monitoring survey as compared to the 10% annual stove loss rate assumed during validation in VCS-PD/14/.

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

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

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

When assessing the audit trails, VKU also examined:

1. whether sufficient evidence was available, both in terms of frequency and in covering the full monitoring period

2. the source and nature of the evidence

3. if comparable information was available from sources other than that used in the monitoring report/1/, VKU cross-checked the monitoring report against the other sources to confirm that the stated figures were correct. The sources and the data referenced are shown in Section 2.2 above.

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

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

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

4.6 Non-Permanence Risk Analysis

There is no non-permanence risk rating determined by the project proponent.

5 VERIFICATION OPINION

M/s VKU Certification Pvt. Ltd. has performed fourth verification of the emission reductions reported for the project activity "Installation of high efficiency wood burning cookstoves in Mozambique", VCS Registry Project ID 2351, for the monitoring period 16-September-2022 to 31-March-2023(both dates included), with regard to the relevant requirements for VCS activities. The project proponents of the "Installation of high efficiency wood burning cookstoves in Mozambique" project is responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered PD version 02.2 of 09-May-2022/14/. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.

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

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

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

VKU Certification's Verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. VKU Certification planned and performed the verification by obtaining evidence and other information and explanations that VKU Certification considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated. It is VKU's opinion that the GHG emission reduction stated in the monitoring report version 1.2 of 18-July-2023/1/ for the "Installation of high efficiency wood burning cookstoves in Mozambique" for the monitoring period 16-September-2022 to 31-March-2023 (both dates included) are fairly stated.

The GHG emission reductions are calculated on the basis of approved methodology VMR0006 version 1.1/6/ and the monitoring plan included in the registered Project Description Document, version 02.2 of 09-May-2022/14/.

Hence VKU is able to certify that the emission reduction from the project during the monitoring period 16-September-2022 to 31-March-2023(both dates included) amounts to 69,099 tCO_2e. VKU is an approved ISO 14064-3:2019 accredited Validation/Verification Body [7] .The assessment team meticulously followed the prescribed steps outlined in the standard, starting with Strategic Analysis, followed by Risk Assessment and the development of an Evidence Gathering plan. Subsequently, the team diligently executed the planned activities to collect the necessary evidence.

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

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

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

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
2022 (16-September-2022 to 31-December-2022)	37,606	0	0	37,606
2023 (01-January-2023 to 31-	31,493	0	0	31,493

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

March-2023)				
Total	69,099	0	0	69,099

The estimated ex-ante GHG emission reductions and removals and the achieved emission reductions and removals for this monitoring period are reported as below-

Year	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
2022 (16-September-2022 to 31-December-2022)	32,403	37,606	16.06%	Actual emission reductions achieved are higher than the value estimated in ex-ante calculation due to 100% ICS were found operating during the monitoring survey as compared to the 10% annual loss rate assumed in VCS-PD
2023 (01-January-2023 to 31-March-2023)	27,255	31,493	15.55%	
Total	59,658	69,099	15.83%	

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
BEF	Baseline Emission Factor
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CL	Clarification Request
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
CQC	C-Quest Capital SGS Stoves Private Limited
DNA	Designated National Authority
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
HH	Household
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NA	Not Applicable
OSV	On Site Visit
PAI	Project Activity Instances
PDD	Project Design Document

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

APPENDIX B: SAMPLING SURVEY SHEET QUESTIONNAIRE

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

APPENDIX C: AUDIT FINDINGS

CAR: 02 Corrective Action Request

CL: 02 Clarification Request

FAR:00 Forward Action Request

Type			Date	24-May-2023
CAR#01			Reference	Section of 1.1 and 4.3 of MR
Description of the Non-Conformance				
1. Section 1.1 of MR: • PP is requested to update futuristic sentence throughout the MR. • PP is requested to mention the reason behind no distribution of ICS during current monitoring period. 2. Section 4.3 of MR: PP is requested to explain this value of total sample selected.				
1st Response from PP			Date	29-May-2023
1. • PP has revised the sentence in the section 1.1 of MR v01.1. • The installation of new stoves under the project is solely determined by the project's investor. In accordance with the investor's decision, new stoves were not installed during the current monitoring period. 2 PP has calculated the sample size considering the confidence level of 90% and precision 10% with simple random sampling technique. It has considered an expected proportion (p) of 85%, This calculation gives a sample size of 68 including 30% non- response. PP has submitted the sampling calculation spread sheet named "Sampling Calc Surv result 2351_Moz_MP4_MP3" to VVB for the reference.				
1st Assessment by Audit Team	Status	Closed	Date	31-May-2023
1. Section 1.1 of MR: • During assessment it was verified that PP has now updated the futuristic sentences throughout the MR. Hence accepted. #Closed. • During assessment it was verified that PP has clarified the reason behind no distribution of ICS in the fourth monitoring period. Hence accepted. #Closed. **2.** Section 4.3 of MR: During assessment it was verified that PP has now explained the value of total sample selected. Hence accepted. #Closed. CAR#01 Closed				
Type			**Date**	**03-July-2023**

CAR#02	**Reference**	Section of 3.2.2 and 5.4 of MR

Description of the Non-Conformance

1. **Section 3.2.2 of MR:**

- The PP does not confirm that the following requirements as per VCS MRT V4.2 requirement *"Identify whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario and provide an explanation of the outcome. Describe and report on any project description deviations applied in previous monitoring reports."*

2. **Section 5.4 of MR**:

- PP does not confirm the impact of additionality and project scale due to higher GHG emission reductions and removals achieve during current monitoring period.

1st Response from PP	**Date**	18-July-2023

1. PP has updated the section 3.2.2 of MR as per the VCS MR template v4.2.
2. This project uses activity method for the demonstration of additionality,

Step 1. Regulatory surplus.

The project installs the ICS at zero cost to the household and has no other source of revenue other than the sale of GHG credits.

Step 2. Positive List.

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

There is no impact on additionality due to GHG emission reduction of current monitoring period. Also, PP would like to clarify that the expected annual energy saving for each project activity instance in this monitoring period is approximately 0.0107 GWh_{th}/y thus no project activity instance exceeds the applicable limit, which is 180 GWh_{th}/y.

1st Assessment by Audit Team	**Status**	Closed	**Date**	20-July-2023

1. **Section 3.2.2 of MR:** PP has updated the section of MR explaining there has been no impact due to the deviation. Hence accepted. #Closed
2. **Section 5.4 of MR**: PP has confirmed that there has been no impact Hence accepted. #Closed

CAR#02 Closed

Type	Date	24-May-2023

CL#01	Reference	Section of 1.1,1.9, 1.10, 1.11, 2.2,3.1 and 4.3 of MR
Description of the Non-Conformance		
3. Section 1.1 of MR: PP to clarify the reason for not conducting monitoring survey during the current monitoring period. 4. Section 1.9 and 1.10 of MR: Declaration Letter by C-Quest Capital SGS Stoves private Limited regarding not availing any other form of Environmental Credit, no double counting of Emission reduction occurred, non-participation in other emission trading schemes. and other binding limits. 5. Section 1.11 of MR: • PP is requested to provide supporting document of non-formal educational and training on issue related to climate change. • PP is requested to provide employment record. • PP is requested to provide supporting document which supports the assessment that the installed cookstove releases less amount of fine particulate matter (PM2.5) and improving overall health outcomes. 6. Section 2.2 of MR: • PP is requested to provide grievance register for the current monitoring period. 7. Section 3.1 of MR: PP to clarify the implementation status of the project specifically the region where the project has so far been implemented. 8. Section 4.3 of MR: • PP is requested to clarify how PP ensures the proper maintenance of stove? • PP is requested to provide training record for quality assurance and quality control.		
1st Response from PP	Date	29-May-2023
1. PP conducted most recent monitoring survey from 30-November-2022 to 17-December- 2022, which was just five months ago. Since then, PP has not installed any new stoves. As the number of TLC rocket stoves remains the same as the previous monitoring period, PP has made the decision not to conduct another monitoring survey. This decision aligns with our registered project document, where PP specified that the frequency of monitoring the cookstoves in operational should be at least once a year. Additionally, the methodology VMR0006 suggests (page number 15, section 9.2) conducting a monitoring survey at least once every two years. Further PP has submitted the stove registration database of monitoring period 3(01-March-2022 to 15-September-2022) and monitoring period 4(16-September-2022 to 31-March-2023) to VVB to verify the number of cookstoves. 2. PP has submitted the declaration letter by C-Quest Capital SGS Stoves Private Limited regarding not availing any other form of Environmental Credit, no double counting of Emission reduction occurred, non-participation in other emission trading schemes, and other binding limits. 3. PP has submitted the attendance sheet and photographs of training programme conducted. PP has submitted the list of employees working for this project. PP has submitted the document (CQC Stove and Jet-Flame Interim Report 3.31.22) to		

VVB. 4. PP has submitted the grievance register to the VVB. 5. PP has installed, 32,262 stoves under this project in Mozambique. PP has updated the section 3.1 of the monitoring report, detailing the province-wise implementation status of the TLC-CQC Rocket stove in Mozambique. To verify the accuracy of this information, VVB can review the database spreadsheet named "stove registration database 2351_Mozambique_MP4," which has been submitted by PP. By cross-checking the data in the report with the information in the database, VVB can confirm the current implementation status of the stove in each province. 6 • PP has a procedure for internal auditing called spot-checking, where field staff randomly selects households to ensure proper functioning of the project stoves throughout the project lifetime and to ensure that the project stoves continue to work as efficient as specified by the manufacturer. Field staff of project proponent randomly select units included in the database and visit or contact the stove owners to cross-check the information on the database with the factual evidence in the field. Any inconsistencies found (e.g., change in the address of a user) gets updated on the database, and in case, ICS are found to be no longer in use, they get clearly marked as such and is excluded from emission reductions calculations. Spot check report for the current monitoring period being submitted to VVB. • PP has submitted the training records (photographs and attendance sheet) to VVB.					
1st Assessment by Audit Team	Status	Open	Date	31-May-2023	

1. Section 1.1 of MR: During assessment it was verified that PP has clarified the reason for not conducting monitoring survey during the current monitoring period. PP has also submitted supporting evidence to VVB which was found acceptable. Hence Accepted. #Closed
2. Section 1.9 and 1.10 of MR: During assessment it was verified that PP has submitted the self-declaration letter. Hence accepted. #Closed
3. Section 1.11 of MR:
    - During assessment it was verified that PP has now submitted the supporting documents for the same. Hence accepted. #Closed
    - During assessment it was verified that PP has submitted the employment records to verify the same. Hence accepted. #Closed
    - During assessment it was verified that PP has now submitted the supporting documents for the same. Hence accepted. #Closed
4. Section 2.2 of MR: During assessment it was verified that PP has submitted the grievance register for the current monitoring period. Hence Accepted. #Closed.
5. Section 3.1 of MR: During assessment it was verified that PP has now mentioned the implementation status of the project province wise. PP has also submitted supporting for cross-checking data with information in the database. Hence Accepted. #Closed.
6. Section 4.3 of MR:
    - During assessment it was verified that PP has explained the process and mentioned about the same in MR. Hence accepted. #Closed
    - During assessment it was verified that PP has now submitted the training records for the same. Hence Accepted. #Closed

CL#01 Closed.

Type	**Date**	**14-July-2023**
CL#02	**Reference**	Section of 1 MR
Description of the Non-Conformance		
1.**Section 1.1 of MR:** PP is requested to clarify on the validity of 3rd Monitoring period survey. **2.Section 1.7 of MR:** PP to submit KML file in supporting documents. **3. Section 1.11 of MR**: PP is requested to clarify whether the SDGs achieved in this project contribute towards "nationally stated sustainable development priorities" of Mozambique as per the MR template. **4.Section 4.2 of MR:** By=1,new,i,j,survey parameter was determined in first MP through monitoring survey. But it is not clear how PP took into account the stove usage rate/Improved Cook Stove (ICS) for calculating emissions during this monitoring period.		
1st Response from PP	**Date**	18-July-2023
1. According to the applied methodology VMR0006 (page number 15, section 9.2), it is recommended to conduct a monitoring survey at least once every two years. PP recently conducted a monitoring survey from 30-November-2022 to 17-December-2022. As there		

have been no new stove installations since then, the database remains unchanged, and PP can utilize the results from the previous monitoring survey. 2. PP has submitted the KML file to VVB. 3. PP has revised the calculation of ER based on the rate of stove usage, which is obtained from the previous monitoring survey. furthermore, the values in the MR have been adjusted accordingly.

1st Assessment by Audit Team	Status	Closed	Date	20-July-2023
1.**Section 1.1 of MR:** Assessment team confirms PP has confirmed the validity of the monitoring survey. Hence, accepted. #Closed. 2. **Section 1.7 of MR:** Assessment team confirms PP has submitted the KML file. Hence, accepted. #Closed. **3. Section 1.11 of MR**: Assessment team confirms PP has clarified on the SDG contributions. Hence, accepted. #Closed. **4.Section 4.2 of MR:** Assessment team confirms PP has accounted stove usage rate. ER sheet has been updated and found appropriate. Hence, accepted. #Closed. CL#02 Closed				

~~Type~~			~~Date~~	~~DD/MM/YYYY~~
~~FAR~~			~~Reference~~	~~Section of VAL/VER~~
~~Description of the Non Conformance~~				
~~1st Response from PP~~			~~Date~~	~~DD/MM/YYYY~~
~~1st Assessment by Audit Team~~	~~Status~~	~~Open/Closed~~	~~Date~~	~~DD/MM/YYYY~~

APPENDIX D: COMPETENCE STATEMENTS

Team Leader:

Certification Pvt. Ltd. VKU.F50W. Competence Statement

COMPETENCE STATEMENT

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

Roles

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

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

Local Expert (Republic of Mozambique):

Certification Pvt. Ltd. VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Raposo Ernesto Jacinto
Nationality	Mozambican
Countries of Experience	The Republic of Mozambique
Education Qualification	Bachelors in Agricultural Engineering
Year of Experience	4+ Years in agricultural market development activities
Area of Expertise	Climate Resilient Smart Agriculture.
Eligible Sectoral Scope	NA

Roles

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

Reviewed by	Vandana Gupta (Quality Manager)	Date	27/12/2022
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	27/12/2022

Validator/Verifier:

Certification Pvt. Ltd. VKU.F50W. Competence Statement

COMPETENCE STATEMENT

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

Roles

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

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

Technical Reviewer:

Certification Pvt. Ltd. VKU.F50W. Competence Statement

COMPETENCE STATEMENT

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

Roles

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

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