



EASTERN DRC COOKSTOVE PROJECT- SOUTH KIVU



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Summary:

4K Earth Science Private Limited (4KES) has been contracted by, “AERA Group” to undertake verification and certification for the greenhouse gas (GHG) emission reductions reported from ‘EASTERN DRC COOKSTOVE PROJECT-SOUTH KIVU’ for the monitoring period 01/01/2023 to 31/12/2023 in the initial monitoring report version 1.0, dated 26/01/2024.

The project activity involves distribution of energy efficient cookstoves for household cooking purpose in DRC. The stoves are manufactured by OBEN EAC S.A. and are commercialized into the community via the local church communities that function in the various locations of the Sud-Kivu province and target primarily the regions covered by the diocese of Uvira. The same was confirmed from the interviews of PP’s representative, the distribution database /11/ and contract between OBEN EAC S.A. and CDPE /24/.

The ICS distributed through this project encourage households to replace the prevailing inefficient three-stone fireplace or traditional charcoal cookstoves that are predominantly used across the region. The ICS provides for an efficient use of the thermal energy generated through the combustion of biomass while cooking and there is a more efficient transfer of this thermal energy to the cooking pot. There is thus a resultant reduction in both biomass consumption and greenhouse gas emissions.

The project activity is operational in the Houses surveyed as confirmed during the on-site audit and interviews with the end users and monitoring personnel. It was discussed with the PP’s representative during the interview that the follow-up surveys are also conducted after the monitoring survey to check the operability of the cookstoves distributed.

The project activity is implemented in the Sud-Kivu province of Eastern DRC and since the start date of the project activity, 10/06/2020 (First ICS distribution /15/) until 31/12/2023, 193,103 ICS have been distributed to end users

in the Sud Kivu province as confirmed from the project distribution database /11/. The project boundary is in compliance with the registered VCS PD /05/.

17,919 stoves have been sold in 2020, 60,146 in 2021 and, 115,038 during the previous monitoring period, spanning from 01-January-2022 to 31-December-2022. During this monitoring period spanning from 01/01/2023 to 31/12/2023, 0 cookstoves have been distributed to households. The ICS distributed can use both firewood and/or charcoal. At the time of distribution, end-users are asked what predominant fuel, they use, and the response is recorded in the project database /11/. On the 193,103 cookstoves distributed, 122,672 are charcoal users (64%) and 70,431 are firewood users (36%) as confirmed from the database /11/.

The project proponent of the project activity is OBEN EAC S.A. who owns the rights to carbon credits generated from the project activity. The project ownership is with OBEN EAC S.A., Project proponent (PP). During the registration of ICS, the participating household signs a declaration to transfer the ownership rights of the carbon assets generated from this project to the project proponent, the same has been confirmed from the sample beneficiary agreement /20/ submitted by the PP. Thus, emission reductions generated by project will be solely claimed by the PP and this has been verified by the Verification team during the PP's representative interviews.

The assessment team has interviewed the end-users during the on-site audit and confirmed that the project has been implemented as mentioned in the VCS PD /05/, the records available and the monitoring survey /17/. The project has been implemented as per the VCD PD /05/ and no material discrepancy has been found between the project description and project implementation. The data and variables provided in the monitoring report are consistent with the approved PD /05/. PP has submitted a monitoring survey database /17/ where 135 households were surveyed during the current monitoring period. The assessment team also checked the survey records /17/ with sample check as per the "Sampling and Survey for CDM Project Activities and Program Activities" Version 09.0 /26/ and found to be consistent for the current monitoring period.

The project has been implemented as described in the VCS PD /05/ and no discrepancy was identified between the project implementation and the project description. VVB has applied acceptance sampling approach to check the applicability of PP's monitoring sampling results /17/.

The verification team also confirms through the interviews that PP has conducted regular spot checks to check the status of ICSs as mentioned in the MR /1.2/ and registered VCS PD/05/. Further, the procedures used by PP to address the concerns regarding the replacement of the part damaged or broken parts were checked and confirmed during the onsite visit through interviews with the beneficiaries. All the beneficiaries confirmed that they have been given training on how to use the stoves during the installation and are also aware of the procedures/contact details to the PP in case of any stove is damaged or broken. This is the third verification of the project and the total emission reductions achieved under this monitoring period i.e., from 01-January-2023 to 31-December-2023 is 661,779 tCO₂e.

A risk based approach has been followed to perform the 3rd periodic verification of the project activity. In the course of the verification, 03 Corrective Action Requests (CARs), 01 Clarification Requests (CL) and 00 Forward Action Request were raised.

The management of the 'OBEN EAC S.A.' responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project final monitoring report Version 4.0 dated 11/04/2024. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the AERA Group. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report Version 4.0 dated 11/04/2024.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 01/01/2023 to 31/12/2023 based on the reported emission reductions in the final monitoring report Version 4.0 dated 11/04/2024 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, 4KES planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

4KES confirms the following;

Reporting period: 01/01/2023 to 31/12/2023

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCUs (tCO ₂ e)	Removal VCUs (tCO ₂ e)	Total VCUs (tCO ₂ e)
2023 (01-January-2023 to 31-December-2023)	661,779	0	0	661,779	0	661,779
Total	661,779	0	0	661,779	0	661,779

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1 INTRODUCTION

1.1 Objective

4KES has been commissioned by 'AERA Group' to perform verification of its registered VCS project 'EASTERN DRC COOKSTOVE PROJECT-SOUTH KIVU', for the reported GHG emission reductions for the given monitoring period 01/01/2023 to 31/12/2023 (both dates included). The VCS projects must undergo an independent third party verification and certification of emission reductions as the basis for issuance of Voluntary Emission Reductions (VERs).

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

- The project activity has been implemented and operated as per the project description (PD) and that all physical features (technology, project equipment and monitoring and metering equipment) of the project are in place;
- Monitoring report 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 Voluntary Emission Reductions (VERs/VCUs) without any double counting, 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.

1.2 Scope and Criteria

The scope of verification is to assess the claims and assumptions made in the VCS monitoring report (MR) against the VCS criteria, including but not limited to, VCS standard, applied methodology and other relevant rules and requirements established for VCS project activities.

The Verification is not meant to provide any consulting towards the project participants. However, stated requests for clarification and/or correction actions request may have provided inputs for improvement of the project design.

1.3 Level of Assurance

The verification process entails a thorough and independent review of the VCS PD, MR and additional supportive evidence including the baseline and monitoring methodology, subsequent background information. Monitoring plan, follow-up interviews and documentation provided to the VVB against VCS criteria (VCS Program guide v4.4 and VCS Standard v4.5)

Microsoft Teams remote audit/Physical site visit was also conducted to verify the implementation and monitoring plan of the project activity and found in accordance with the monitoring report /1.2/ and registered VCS PD /05/.

A draft verification report prepared by assessment team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and

implemented by 4KES are duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable VCS requirements as appropriate. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team.

4KES 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. 4KES planned and performed the verification by obtaining evidence and other information and explanations that 4KES considers necessary to give reasonable level of assurance that reported estimated GHG emission reductions are fairly stated.

The estimated and actual GHG emission reductions were calculated correctly on the basis of the relevant applied methodology, VMRO006, v1.1 /06/. The assessment result has met a reasonable level of assurance in verification that GHG assertions are free of material errors, omissions and misrepresentations.

1.4 Summary Description of the Project

The project activity involves distribution of energy efficient cookstoves for household cooking purpose in DRC. The stoves are manufactured by OBEN EAC S.A. and are commercialized into the community via the local church communities that function in the various locations of the Sud-Kivu province and target primarily the regions covered by the diocese of Uvira. The same was confirmed from the interviews of PP's representative, the distribution database /11/ and contract between OBEN EAC S.A. and CDPE /24/.

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proponent, the same has been confirmed from the sample beneficiary agreement /20/ submitted by the PP. Thus, emission reductions generated by project will be solely claimed by the PP and this has been verified by the Verification team during the PP's representative interviews.

The assessment team has interviewed the end-users during the on-site audit and confirmed that the project has been implemented as mentioned in the VCS PD /05/, the records available and the monitoring survey /17/. The project has been implemented as per the VCD PD /05/ and no material discrepancy has been found between the project description and project implementation. The data and variables provided in the monitoring report are consistent with the approved PD /05/. PP has submitted a monitoring survey database /17/ where 135 households were surveyed during the current monitoring period. The assessment team also checked the survey records /17/ with sample check as per the "Sampling and Survey for CDM Project Activities and Program Activities" Version 09.0 /26/ and found to be consistent for the current monitoring period.

The project has been implemented as described in the VCS PD /05/ and no discrepancy was identified between the project implementation and the project description. VVB has applied acceptance sampling approach to check the applicability of PP's monitoring sampling results /17/.

The verification team also confirms through the interviews that PP has conducted regular spot checks to check the status of ICSs as mentioned in the MR /1.2/ and registered VCS PD/05/. Further, the procedures used by PP to address the concerns regarding the replacement of the part damaged or broken parts were checked and confirmed during the onsite visit through interviews with the beneficiaries. All the beneficiaries confirmed that they have been given training on how to use the stoves during the installation and are also aware of the procedures/contact details to the PP in case of any stove is damaged or broken. This is the third verification of the project and the total emission reductions achieved under this monitoring period i.e., from 01-January-2023 to 31-December-2023 is 661,779 tCO₂e.

2 VERIFICATION PROCESS

The registered VCS project is undergoing 3rd verification under VCS (1st Crediting period), the approach adopted to ensure the quality of emission reductions is described in the following sections.

2.1 Method and Criteria

4KES assessed and determined whether the proposed implementation and operation of the project activity and the steps taken to report emission reductions comply with the criteria and relevant guidance provided by the VCS Board. The validation/verification process consists of the following three phases;

- A desk review of the VCS PD and VCS MR
- follow up interviews with project stakeholders
- The resolution of outstanding issues and issuance of final report and opinion.

The prepared verification report and other supporting documents then undergo an internal quality control before being submitted to the VCS executive board for issuance of credits as per VCS standard v4.5 /03/.

Sampling plan for verification of the project:

During the on-site verification, a random sampling approach has been used by the verification team to verify the reported values of the monitored parameters ($N_{y,i,j}$ and μ_y) as listed in the MR /1.2/ which are determined through sampling by PP.

The verification team followed the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities” version 09, para 29 and 33, esp. for taking samples out of the PP’s sample. Verification has adopted the acceptance sampling approach in order to verify the sampling result of the PP for the applied verification period.

The Sampling and surveys for CDM project activities and programmes of activities (Version 9.0) /26/ states under paragraph 28 that “When the project participants or the coordinating/managing entity have applied a sampling approach, the VVB may apply acceptance sampling as described in the steps indicated in paragraphs 29–38 below as part of validation/verification activities”.

As per para 39 of the sampling standard version 9.0 /26/, “A VVB may select a different sample size than the one indicated in paragraph 32 above either by choosing a different value for the consumer risk and producer risk (e.g., 20 per cent for the consumer risk) when applying acceptance sampling or by using another approach, if any of the following conditions apply:

- The estimated volume of annual GHG emission reductions of the project activity or the PoA being verified is equal to or less than 100,000 tCO₂e.
- The security conditions in the project region prevents inspection of many samples (eg. conflict zones); or
- The project activity or the PoA is located in a least developed country or a host party with 10 or fewer registered CDM project activities at the end of the monitoring period being verified.”

The project activity is located in the Democratic Republic of Congo which is an LDC. (<https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information>).

For the determination of VVB’s acceptance sample size in the checklist, verification team assumed the following factors:

Acceptable quality level (AQL) – 0.5%

Unacceptable Quality Level (UQL) – 15%

Producer risk- 5%

Consumer risk- 20%

Verification team has determined acceptance sample size based on the “Table. Sample size and acceptance number based on AQL, UQL, and producer and consumer risks” of standard “Sampling and surveys for CDM project activities and programme of activities” version 09.0. From the above assumed factors, the verification team determined the minimum sample size (n) as 10 minimum samples for end user places under the project and acceptance number (c) as zero. The verification team shared the samples with the PP during on-site visit.

The actual number of sample size where the acceptance survey was done given below:

Parameters	VPA Implementer's sample size	Acceptance sample size (n)	Acceptance Number (z)	Sampling method used
Monitoring parameters as per the MR	135 samples of Monitoring survey	10	0	Acceptance sampling using Random sample

During site visit, Verification team visited sample end users applying the random selection technique to cross check the data reported by PP. Verification team has checked the PP samples result with the on-site interview, survey results /17/, End-user agreements /20/ and end users data base as per the ER sheet /2.2/ and found consistent. The result of the survey is given below:

Parameters	VVB Sample size (n)	No of PP's record beyond unacceptable level (C)	Accepted Samples By VVB	Accepted/ Rejected
Monitoring parameters as per the MR	10	0	10	Accepted

All the visited samples were showing similar result as reported by PP in its monitoring records. Onsite audit results/observation is found to be in line with PP surveys and results. Further, all the primary monitoring records on-site were reviewed to assess the consistency of information in MR and ER calculation spreadsheet and found the monitoring data to be correctly transcribed. Based on that, verification team concludes that sampling results and values presented by PP in the MR and spread sheets and results of survey are consistent with the onsite observation and interview with the Beneficiaries.

Hence, verification team confirms that PP's survey/sampling records to be acceptable in line with the requirements of the Sampling Standard and Guidance.

Duration of Verification:

Verification Contract	29/12/2023
Audit	29/01/2024 (Microsoft Teams remote audit by Team leader) and 29/01/2024 and 30/01/2024 (Physical site visit by Local Expert and Technical Expert)
Findings raised	27/02/2024
Draft Verification Report	01/04/2024
Final Verification Report	11/04/2024

2.2 Document Review

The verification is performed primarily as a document review of the approved VCS PD and associated documents as stated in detail in appendix I of this document. The assessment is performed by a verification team using a protocol. The cross checks between information provided in the Monitoring report, VCS PD and information from sources other than those used, if available, the team's sectoral or local expertise and, if necessary, independent background investigations.

2.3 Interviews

In accordance with VCS standard, version 4.5 /03/, para 4.1.9 "A site visit that includes a visit to facilities and/or project areas shall be conducted at validation. Such a site visit shall be conducted at verification under the following circumstances:

- The first verification of the project after validation
- Verification of project baseline reassessments; and
- Verifications that assess a project description deviation where the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario"

Verification team performed the Microsoft Teams remote interviews/Physical site visit and interviewed PP's representatives/Employees/Carbon Consultant/Stakeholders and reviewed documents to achieve a reasonable level of assurance in the verification. Kindly find below names of the persons interviewed (Microsoft Teams remote audit interviews/Physical site visit).

Location	The project activity is located solely within the geographic borders of the Democratic Republic of Congo in central Africa. The project activity occur within the Eastern regions of DRC – specifically the Sud-Kivu Province.
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	The province is located around the co-ordinates: 3°0'41.969" S, 28°17'57.966" E.		
Dates	29/01/2024 (Microsoft Teams remote audit by Team leader) and 29/01/2024 and 30/01/2024 (Physical site visit by Local Expert and Technical Expert)		
Key points discussed	Name of person interviewed	Designation, Organization	Mode of interview
Project Implementation, Operational data, Data collection, Roles and responsibilities, QA/QC, procedures, Calculation of ERs, VCS requirements, Sustainable development impact, Complaints, Mode of communication, Environmental impact, any other concerns	Claver NDIZEYE	Managing Director, OBEN EAC S.A.	Microsoft Teams
	Pascal RWEMERA	Director, OBEN EAC S.A.	Microsoft Teams
	Jephil Rwemera	CEO, OBEN EAC S.A.	Microsoft Teams
	Loic SUMIYE	Commercial director, OBEN EAC S.A.	Microsoft Teams
	Jokhanan TOE	Carbon Project Manager, Aera Group	Microsoft Teams
	Nazim Oualane	Carbon Analyst, Aera Group	Microsoft Teams
	Henri BISIMWA MUZIRIGERA	Field Team Leader, OBEN EAC S.A.	Physical site visit
	James Nirera	Head of Production Site, OBEN EAC S.A.	Physical site visit
	Eric MUHINDUKA	Responsible CDPE Partners	Physical site visit
	Sofia Buci	Local stakeholder	Physical site visit
	Tausi Tosha	Local stakeholder	Physical site visit

2.4 Site Visits

As already discussed in the above section, physical site is done for the current verification in line with para 4.1.9 of the VCS standard, version 4.5 /03/. An on-site was undertaken by the assessment team to carry out the following:

- An assessment of the implementation and operation of the registered project activity as per registered VCS PD /05/ and MR /1.2/.
- A review of information flows for generation, aggregation and reporting of the monitoring parameters.
- Interview with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the registered monitoring plan in the PD /05/.

- A cross check between information provided in the monitoring report and data from other sources such as monitoring survey forms, monitoring survey results spreadsheets, technical specifications, or similar data sources.
- A review of calculation and assumptions made in determining the GHG data and emission reduction.
- Relevant QA/QC procedure were checked to prevent, identify, and correct, any error in the reported monitoring parameters.

For cross-checking of the monitoring survey results, in line with standard for 'Sampling and Surveys for CDM Project Activities and Programmes of Activities' v09.0 /26/, the assessment team has visited 10 beneficiaries in DRC. The interviews with the project beneficiaries have been conducted with help of Local expert and Technical Expert. The information of the end users interviewed and the topics covered during the onsite audit are given in the table below.

No.	Name and surname of the Beneficiary	Cookstove ID	Date of interview	Subject	Team member
1.	Kyabusiku bilengalenga	OB-RDC071916	29/01/2024-30/01/2024	Verification of the participants in monitoring survey and cross verification with the results provided by PP.	Prof. Dr. Pierre-Célestin KARANGWA - Physical site visit interviews
2.	Georgette Masoka	OB-RDC088304		Operation and usage of project ICS and details of the baseline device and usage level of baseline device.	
3.	Ntuza muzaliwa	OB-RDC084985		Feedback on the ICS installed whether it saves money, time and produces less smoke compared to the baseline device used.	
4.	Batomene Christian	OB-RDC093438		Training and Ongoing support provided by PP for operation of project ICS	
5.	Francine mane	OB-RDC068724		Grievance mechanism etc.	
6.	Sikitu Chantal	OB-RDC084277			
7.	Useni Ngoy	OB-RDC128108			
8.	Trésor Rubeta	OB-RDC033234			
9.	Murabazi Emmanuel	OB-RDC043532			

10.	Nelly namvra	OB- RDC093302			
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2.5 Resolution of Findings

The objective of this step is to identify, discuss and conclude on the issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions. This is done based on the desk review and Microsoft Teams remote interview/Physical site visit. The verification team prepares and/or updates a verification protocol (internal document) that records the conformities and non-conformities, which may be of following types;

CAR (Corrective Action Request) is raised if one of the following occurs:

- Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised by the 4KES during verification shall be resolved prior to submitting a request for issuance.

FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

During the Verification process, total 03 CAR and 01 CL were raised and resolved satisfactorily. No FAR has been raised. The list of CARs/CLs/FARs raised and the response provided, the mean of validation, reasons for their closure and references to correction in the relevant documents are provided in Appendix II of this report.

2.5.1 Forward Action Requests

No FAR raised during the verification.

2.6 Eligibility for Validation Activities

4KES conducted the verification activity; the validation was performed by the other VVB. 4KES has a valid UNFCCC accreditation in the sectoral scope from UNFCCC. The accreditation scope can be checked from the below link: <http://cdm.unfccc.int/DOE/list/DOE.html?entityCode=E-0069>.

3 VALIDATION FINDINGS

3.1 Methodology Deviations

No methodology deviation is applied during this monitoring period or previous monitoring periods.

3.2 Project Description Deviations

No project description deviation is applied during this monitoring period or previous monitoring periods.

3.3 New Project Activity Instances in Grouped Projects

The project is not a grouped project. Therefore this section is not applicable.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes

☒ No

4 VERIFICATION FINDINGS

4.1 Project Details

The project activity involves distribution of energy efficient cookstoves for household cooking purpose in DRC. The stoves are manufactured by OBEN EAC S.A. and are commercialized into the community via the local church communities that function in the various locations of the Sud-Kivu province and target primarily the regions covered by the diocese of Uvira. The same was confirmed from the interviews of PP's representative, the distribution database /11/ and contract between OBEN EAC S.A. and CDPE /24/.

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across the region. The ICS provides for an efficient use of the thermal energy generated through the combustion of biomass while cooking and there is a more efficient transfer of this thermal energy to the cooking pot. There is thus a resultant reduction in both biomass consumption and greenhouse gas emissions.

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17,919 stoves have been sold in 2020, 60,146 in 2021 and, 115,038 during the previous monitoring period, spanning from 01-January-2022 to 31-December-2022. During this monitoring period spanning from 01/01/2023 to 31/12/2023, 0 cookstoves have been distributed to households. The ICS distributed can use both firewood and/or charcoal. At the time of distribution, end-users are asked what predominant fuel, they use, and the response is recorded in the project database /11/. On the 193,103 cookstoves distributed, 122,672 are charcoal users (64%) and 70,431 are firewood users (36%) as confirmed from the database /11/.

The project proponent of the project activity is OBEN EAC S.A. who owns the rights to carbon credits generated from the project activity. The project ownership is with OBEN EAC S.A., Project proponent (PP). During the registration of ICS, the participating household signs a declaration to transfer the ownership rights of the carbon assets generated from this project to the project proponent, the same has been confirmed from the sample beneficiary agreement /20/ submitted by the PP. Thus, emission reductions generated by project will be solely claimed by the PP and this has been verified by the Verification team during the PP's representative interviews.

The assessment team has interviewed the end-users during the on-site audit and confirmed that the project has been implemented as mentioned in the VCS PD /05/, the records available and the monitoring survey /17/. The project has been implemented as per the VCD PD /05/ and no material discrepancy has been found between the project description and project implementation. The data and variables provided in the monitoring report are consistent with the approved PD /05/. PP has submitted a monitoring survey database /17/ where 135 households were surveyed during the current monitoring period. The assessment team also checked the survey records /17/ with sample check as per the "Sampling and Survey for CDM Project Activities and Program Activities" Version 09.0 /26/ and found to be consistent for the current monitoring period.

The project has been implemented as described in the VCS PD /05/ and no discrepancy was identified between the project implementation and the project description. VVB has applied acceptance sampling approach to check the applicability of PP's monitoring sampling results /17/.

The verification team also confirms through the interviews that PP has conducted regular spot checks to check the status of ICSs as mentioned in the MR /1.2/ and registered VCS PD/05/. Further, the procedures used by PP to address the concerns regarding the replacement of the part damaged or broken parts were checked and confirmed during the onsite visit through interviews with the beneficiaries. All the beneficiaries confirmed that they have been given training on how to use the stoves during the installation and are also aware of the procedures/contact details to the PP in case of any stove is damaged or broken. This is the third

verification of the project and the total emission reductions achieved under this monitoring period i.e., from 01-January-2023 to 31-December-2023 is 661,779 tCO₂e.

The selected monitoring period i.e. 01/01/2023 to 31/12/2023 (both days included) is within the 1st crediting period i.e. 10/06/2020 to 09/06/2027 which is accepted to the verification team.

There was no major change during the monitoring period which might affect the applicability of methodology or might cause material errors in emission reductions.

The project design as mentioned in the registered VCS PD /05/ & monitoring report /1.2/ submitted is implemented and thus the same is acceptable to the assessment team. All required monitoring equipment's and procedures as mentioned in the registered VCS PD & monitoring report are available and implemented in an appropriate manner.

Since the project activity involves distribution of improved cookstoves, it does not come under the purview of an Environmental Impact Assessment and does not involve any negative impact. The assessment team can confirm that the project activity does not cause any environmental or social harm.

The organisational role and responsibility as mentioned in the registered VCS PD /05/ & monitoring report /1.2/ is followed onsite. All the emergency preparedness as mentioned in the registered VCS PD & monitoring report is followed onsite and no discrepancies were found regarding the same.

The assessment team found that the project is in line with the registered VCS PD and monitoring report.

As per the registered VCS PD /05/, ex-ante emission reductions for this monitoring period are 679,099 tCO₂e however actual emission reductions corresponding to this monitoring period are 661,779 tCO₂e. The actual emission reduction is 3% lower than the estimated emission reduction which is acceptable to the verification team.

Section 1.2 of the VCS MR /1.2/ mention about the audit history. The registered VCS project is undergoing 3rd periodic verification for the monitoring period 01/01/2023 to 31/12/2023 (including both the days) under VCS 1st Crediting period i.e. 10/06/2020 to 09/06/2027 (including both the days). Verification team has checked the audit history table mentioned under section 1.2 of the VCS MR /1.2/ and found accurate.

Item	Evidence gathering activities, evidence checked, and assessment conclusion:
Audit history	Verification team has checked the audit history mentioned under section 1.2 of the MR /1.2/ and found that MR /1.2/ has been filled appropriately.
Double counting and participation under other GHG programs	The project is registered in VCS only, verification team confirms that it has checked that there is no double counting associated with project activity being participation of other GHG programs which is also verified from the declaration given by the PP /23/.

No double claiming with emissions trading programs or binding emission limits	Net GHG emission reductions or removals generated by this project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions as the host country i.e. Democratic Republic of Congo is not a participant in any emission trading programs or nor does it have any binding limits. Also the project has not sought or received another form of GHG-related environmental credits including renewable energy certificates.
No double claiming with other forms of environmental credit	The project is registered only under VCS. Verification team confirms that it has checked that there is no double counting associated with project activity being participation of other GHG programs. Declaration /23/ for the same has been submitted. Thus emission reductions generated by project will be solely claimed by PP and PP has the right of use, which is acceptable.
Supply chain (scope 3) emissions double claiming	Project proponent or authorized representative is not a buyer or seller of a product whose emissions footprint is changed by the project activities. The same is confirmed from the PP's representative interviews.
Sustainable development contributions	Verification team has checked the supportive for the activities that result in the SD contributions from the project activity for each SDG. SDG Target 1.4: During the monitoring period, 193,103 end-users experience money savings thanks to the use of the project ICS. Verification team has checked the same from the monitoring report /1.2/ and the ER calculation sheet /2.2/ and found correct. The same was also verified during the acceptance sampling of the project ICS households during the site visit. SDG Target 3.9: During the monitoring period, 193,103 end-users experience less fumes. Verification team has checked the same from the monitoring report /1.2/ and the ER calculation sheet /2.2/ and found correct. The same was also verified during the acceptance sampling of the project ICS households during the site visit. SDG Target 7.1: During the monitoring period, 0 improved cookstoves distributed. Verification team has verified the same from the distribution database /11/ and the PP's representative interview. SDG Target 8.3: 10 jobs were created during this monitoring period for the operational phase. Verification team has verified the same during the Microsoft Teams remote audit/Physical site visit interviews and also from the list of employees /22/. SDG Target 13.2: During this monitoring period, 661,779 tCO₂e of greenhouse gas emissions avoided. Verification team has checked the same from the monitoring report /1.2/ and the ER calculation sheet /2.2/ and found correct.

	SDG Target 15: During this monitoring period, 327,653 tonnes of wood¹ saved. Verification team has checked the same from the monitoring report /1.2/ and the ER calculation sheet /2.2/ and found correct. Section 1.12 of the Monitoring report /1.2/ has been checked and found OK. The project activity contributes positively to sustainable development. The verification team has reviewed the SDG contribution and the contributions to SDG has been verified by checking the monitoring survey /17/, employment record /22/, data base /11/ and ER sheet /2.2/. The samples taken for the onsite audit along with the interview (Section 2.3 of this report) with the PP's representative/employees/stakeholders also confirmed that the SDG contributions have been monitored by the PP.
Additional information relevant to the project	No commercially sensitive information has been excluded from the public version of the monitoring report.

Opinion:

Assessment team concludes the following:

¹ The quantity of wood saved is calculated by multiplying the Number of cookstoves installed (full-use equivalent), by the fNRB, the quantity of biomass saved by each ICS and the number of days the stoves have been working during the year. Hence for 2022 it is : $122,129 \times 84.0\% \times 2,13 = 218,467$ tons of non-renewable biomass saved. Full and detailed calculation is available in the ER sheet

- a) There are no material discrepancies between project implementation and the project description provided in the registered VCS PD /05/.
- b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate.
- c) There is no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology.
- d) The GHG emission reductions or removals generated by the project have not included in an emissions trading program or any other mechanism that includes GHG allowance trading.
- e) The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation or previous verification.
- f) Project is only registered under VCS.

In view of the information's as verified above the assessment team is able to conclude that the project has been implemented as described in the project description.

4.2 Safeguards and Stakeholder Engagement

4.2.1 Stakeholder Identification

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	For the purpose of initiating and developing this project, the implementer, either directly or through his team of professionals, has undertaken correspondence and consultations. Stakeholders were identified at validation and since, the project design has not changed. This was confirmed during validation and verified during this monitoring period through the stakeholder interviews. Thus, this section is not applicable.
Legal or customary tenure/access rights	N/A. Refer above justification.
Stakeholder diversity and changes over time	N/A. Refer above justification.

Expected changes in well-being	N/A. Refer above justification.
Location of stakeholders	N/A. Refer above justification.
Location of resources	N/A. Refer above justification.

4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Ongoing consultation	Contact details of OBEN in Burundi as well as CDPE in DRC are provided to all the stakeholders, they can either contact OBEN by phone or CDPE physically at the church or remotely by phone. OBEN contact details are provided on the contract signed by the end-users /20/ who acquire a cookstove, to ensure that they can contact project proponent at any time.
Date(s) of stakeholder consultation	08-July-2021
Communication of monitored results	As a part of on-going communication with local stakeholders, end users were encouraged to provide any comments or propositions during stakeholder feedback round spanning from the meeting date to 07 September 2021. Local stakeholders were also informed about the grievance registering system, at the end of the meeting.
Consultation records	A grievance logbook used for compiling all comments received is available. During this monitoring period, there were 8 comments regarding damaged ICS. All ICS have been replaced or rehabilitated. Verification team has confirmed the same from the grievance records /13/.
Stakeholder input	No negative feedback is received during the stakeholder interviews with respect to the project operations. Thus, no modifications have been since comments received during the LSC did not question the design of the project activity in principle.

4.2.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Consent	BQS-OBEN and the Diocesan Center for the Protection of the Environment (CDPE) of Uvira in the Democratic Republic of Congo have entered into a formal agreement /24/ by which OBEN will provide information and capacity building to CDPE who will in turn ensure that the local populace and potential users are informed of the ICS benefits, register any concerns and act as a conduit to the project developers to ensure that stakeholder views are communicated and incorporated into the project design. The same is confirmed from the interviews.
Outcome of FPIC discussion	A formal contract was signed between BQS-OBEN and the Diocesan Center for the Protection of the Environment (CDPE) of Uvira on 26/05/2017. As per Local Stakeholders Minutes /25/, the project did not encroach on land, relocated people without consent, and forced physical or economic displacement. The same was also confirmed from stakeholder interviews. Furthermore, the project aims at providing improved cookstoves to households thus, there is no need to displace local population.

4.2.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Grievance received and steps taken to resolve the grievance including the outcomes of the resolution	Damaged ICS for 8 households as confirmed from the grievance records /13/.
Grievance redress procedure	All ICS have been replaced or rehabilitated.

4.2.5 Public Comments

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
Marie Rose Kabonge Saidi – Member of Parliament Congratulated the speakers and project proponents on the initiative and spoke well of the cross-border collaboration and expressed her delight. She promised to raise awareness among her colleagues in the Territorial Assembly and promote the project activity.	No response required.	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.
Serge Bahati Bintu – Director Territorial Environmental Service of Uvira He raised a concern about the negative effects of deforestation in the region, noting that the informal charcoal sector has denuded the forests in the area leading towards an ecological disaster. He praised the mitigation of this through the use of the more efficient ICS devices and encouraged all households to get at least one.	Positive intervention and support for project.	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.
Ms Safi Awadi – facilitator for Action for the Development of Peasant Communities Firstly, she expressed her support for the project and gave the support of her organization. Q1: She wanted to know about the manufacturing process. Q2: Can it be produced locally	A1: The manufacturing process outlined in the PD was explained, including the benefits of employment. A2: OBEN explained that in the second phase of the project, it is planning to	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.

Q3: Does the higher efficiency affect the cooking pots negatively?	collaborate with CDPE to produce the devices in the DRC. A3: No, higher efficiency does not wear pots quicker, but does cook food quicker.	
Ms Fatuma Maman Sifa – Representative of association of Christian mothers – Uvira Given the expense mothers have to incur to purchase fuel for cooking, she was positive to the introduction of the ICS devices. Q1: She hoped that mothers could be involved in the distribution in the future. Q2: What is the price of an ICS for a household? Q3: Could the project roll out not be accelerated?	A1: This could be possible in the future. A2: The cost is around 10 USD but due to the project activity and carbon finance, the price will be USD 5 per ICS device for affordability. A3: The project needs to follow due process to ensure carbon finance is possible, so it cannot be rushed.	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.
Hillaire Salloum – from Head Office of International Committee of the Red Cross Q1: Asked if it would be possible for a large number of ICS devices to be made available to the ICRC for distribution in emergency periods.	A1: OBEN took note and could do this in the future as part of a different project as they have done elsewhere in the region (e.g. Burundi).	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.

Rachidi Nyambuza – a Representative of the Rice Growers Association Q1: Mentioned that the Rice growers association represents many growers and they could offset pre purchase of the ICS devices against the sale of the rice crop.	A1: OBEN replied that this was not a problem and they need to work through the CDPE to facilitate this, but that household registration is very important for monitoring and traceability.	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.
Francis Bahoza – Action Humanitaire pour L'Assistance et le Développement. Q1: Asked about reducing the cost of the ICS to USD5 as it was expensive.	A1: OBEN explained carbon finance and that the costs is already greatly reduced and without other inputs it could not be reduced further.	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.
Michelle Ehouman – Office of the High Commissioner for Refugees. Q1: It was mentioned that the UNHCR struggled to find sufficient fuel for refugees and enquired about the possibility of OBEN assisting with ICS devices for refugees.	A1: It was possible, and OBEN are doing this in other areas. Discussions would need to be held as that is a large project and outside of design scope this project, but it is possible.	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.
Bekoutare Pepe – Head Office – Uvira – African Initiative for Relief and Development	A1: The audience were unanimous is supporting this with applause.	The same was checked during the validation of the project. Verification team has checked the same from the LSC extracts /25/.

Q1: Praised the project activity as he mentioned he had seen the benefits of a similar project elsewhere and said it made a significant positive impact. He suggested that all households that get a ICS device should be encouraged to plant a tree too to mitigate the impacts of climate change.		
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4.2.6 Risks to Local Stakeholders and the Environment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Risks to stakeholder participation	As per grievance book /13/, no negative feedback is received
Working conditions	The project's personnel are interviewed during monitoring period and not reported any health and safety risk or incident during the operation phase.
Safety of women and girls	As mentioned above, the project's personnel are interviewed and women have not reported any security problem.
Safety of minority and marginalized groups, including children	It is observed during site visit and found no risk.
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials)	The project activity consists of the distribution of improved cooking stoves, thus those risks are not applicable.

4.2.7 Respect for Human Rights and Equity

4.2.7.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Discrimination and sexual harassment	OBEN follows the applicable laws in Burundi regarding discrimination and sexual harassment policy. In addition to the applicable laws regarding prevention, protection of victims and repression of gender-based violence ² , the state of Burundi developed an action plan, in 2019, in order to enhance the applicable law ³ . In RDC, the Convention on the Elimination of All Forms of Discrimination against Women has been adopted since 1979 by the Member States of the United Nations. It was ratified by the Democratic Republic of Congo (DRC) in October 1985. Thus, it is applicable to all companies operating in the country. The same was also confirmed during the OBEN/CDPE employee interviews.
Management experience	N/A
Gender equity in labor and work	According to the list of employees provided by the PP /22/, both women and men are part of the operational team.
Human trafficking, forced labor, and child labor	The project aligns with the labour convention and labour rights of Burundi, which is a member of the International Labour Organisation (ILO) since 1963. The project does not use victims of human trafficking, forced labour and child labour. The same was also confirmed during the OBEN/CDPE employee interviews.

4.2.7.2 Human Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Human rights	OBEN employs local population for project management and the project aligns with the labour convention and labour rights of Burundi, which is a member of the International Labour Organisation (ILO) since 1963 and signed the following fundamental conventions: C029 – Forced Labour Convention, 1930. Since 11.03.1963. C087 – Freedom of Association and Protection of the Right to Organise Convention, 1948 (No.98). Since 25.06.1993

² <http://www.presidence.gov.bi/wp-content/uploads/2017/07/loi-013-2016.pdf>

³ <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/CSW/64/National-reviews/Burundi.pdf>

	C098 – Right to Organise and Collective Bargaining Convention, 1949. Since 10.10.1997.
	C100 – Equal Remuneration Convention, 1951. Since 25.06.1993.
	C105 – Abolition of Forced Labour Convention, 1957. Since 11.03.1963.
	C111 – Discrimination (Employment and Occupation) Convention, 1958. Since 25.06.1993.
	C138 – Minimum Age Convention, 1973. Since 19.07.2000.
	C182 – Worst Forms of Child Labour Convention, 1999. Since 11.06.2002
	The same was also confirmed during the OBEN/CDPE employee interviews.

4.2.7.3 Indigenous Peoples and Cultural Heritage

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Preservation and protection of cultural heritage	Considering the cookstove distribution project, this has no impact on cultural heritage. Hence this section is not applicable.

4.2.7.4 Property Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Disputes over rights to territories and resources	Considering the cookstove distribution project, this has no impact on property rights. Hence this section is not applicable.
Respect for property rights	Considering the cookstove distribution project, this has no impact on property rights. Hence this section is not applicable.

4.2.7.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Summary of the benefit sharing plan	Considering the cookstove distribution project, this section is not applicable.
Benefit sharing during the monitoring period	Considering the cookstove distribution project, this section is not applicable.

4.2.8 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	The project involves reduction of the deforestation. Thus, this is not applicable.
Soil degradation and soil erosion	The project involves the distribution of ICS. Thus, it is not linked to soil activities and related impacts.
Water consumption and stress	The project involves the distribution of ICS. Thus, it is not linked to water consumption activities and its related impacts.
Usage of fertilizers	Not applicable to project activity.

4.2.8.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	Considering the cookstove distribution project, this section is not applicable.

4.2.8.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
Considering the cookstove distribution project, this section is not applicable.	N/A

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
Considering the cookstove distribution project, this section is not applicable.	N/A

4.2.8.3 Ecosystem conversion

Item	Evidence gathering activities and evidence checked
Ecosystem conversion	Considering the cookstove distribution project, this section is not applicable.

4.3 Accuracy of Reduction and Removal Calculations

The verification team was able to confirm that the monitoring plan contained in registered VCS PD /05/ and MR /1.2/ is in accordance with the approved methodology applied for the project activity i.e. “VMR0006 ver. 1.1 - Methodology for Installation of High Efficiency Firewood Cookstoves” /06/ and its applicable tools.

The parameters stated in the monitoring plan /05/ and the applied methodology /06/ have been fulfilled in the current monitoring period.

The GHG emission reductions were correctly calculated on the basis of the applied methodology VMR0006 Version 1.1 /06/, VCS PD /05/ and the formulae given in the monitoring report /1.2/.

Parameter monitored:

Verification team confirms through remote interviews/physical site visit and from the document review, the actual monitoring system complies with the monitoring plan mentioned in the registered validated VCS PD /05/. According to the monitoring plan in the registered VCS PD, there are six monitoring parameters required to be monitored.

Monitored Parameter		
Data/Parameter	Ny,i,j	
Data Unit	Number	
Description	Number of project devices of type i and age a that are operating in year y	
Means of Verification	Criteria/Requirements	Assessment/Observation

	Measuring/Reading/Recording Frequency	As per the applied methodology /06/ and registered VCS PD /05/, the parameter is to be recorded at least once every two years through monitoring survey. The same is followed during this monitoring period as confirmed from the Monitoring survey /17/ and ER sheet /2.2/. The monitoring survey has been conducted from 30/12/2023 to 20/01/2024 and the previous survey was conducted from 30/12/2022 to 10/01/2023.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes/ No)	Yes
	Description of measurement methods and procedures applied	Measured based on a representative sample. Sampling standard used for determining the sample size to achieve 90/10 confidence precision according to the latest version of Standard for sampling and surveys for CDM project activities and programme of activities, version 09.0 /26/ as confirmed from tab “Sample size” of ER calculation sheet /2.2/. For each batch i.e. year 2020, year 2021 and year 2022, random samples were selected as confirmed from tab “SK project Database” of ER calculation sheet /2.2/. The survey of the households has been conducted by OBEN team through Kobo ToolBox as confirmed from the interviews and ER calculation sheet /2.2/. The employees were found competent for the monitoring survey and trainings /19/ were provided to them. For each batch i.e. year 2020, year 2021 and year 2022, Precision was achieved as confirmed from tab “Monitoring surveys MR3” of ER calculation sheet /2.2/.

	Monitoring Equipment	Not Applicable
	Monitored Value	179,831
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not Applicable
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable for the parameter.
	Calibration frequency/interval:	Not applicable for the parameter.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, pending until the findings are closed or as per the manufacturer's specifications?	Not applicable for the parameter as already stated.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable for the parameter as already stated.
	Is(are) calibration(s) valid for the whole reporting period?	Not applicable for the parameter as already stated.

	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable for the parameter as already stated.
	How were the values in the monitoring report verified?	The values were obtained from the stove distribution database /11/ by multiplying the batch average of operational stoves with the total number of commissioned stoves. The total sample size for the current monitoring period was identified as 135 households. The value is checked from the Monitoring survey records /17/ and the ER calculation sheet /2.2/ and found OK.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensure correct transfer of data and reporting of emission reduction and all necessary QA/QC processes are in place.
Findings	No finding raised in this respect.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) /05/ and applied methodology /06/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan /05/. The verification team is able to confirm that the project is implemented as per the registered PD /05/ and there is no discrepancy observed between the actual monitoring system and the monitoring plan set out in the registered PD /05/ and the applied methodology /06/. The data has been verified from PP's monitoring survey /17/ submitted to the verification team. Further, it was cross- checked by applying acceptance sampling based on "Sampling and surveys for CDM project activities and programmes of activities", v9.0 /26/ and determining 10 households as samples for interviews during the on- site visit.	

Monitored Parameter	
Data/Parameter	ηold

Data Unit	Fraction	
Description	Efficiency of baseline stoves	
Means of Verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading/Recording Frequency	Once in two years as mentioned in the VCS-PD /05/ and MR/1.2/.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes/ No)	Yes
	Description of measurement methods and procedures applied	Weighted average values regarding the type of stoves (0.1 for wood users and 0.2 for charcoal users). During the monitoring period, on the, 193,103 households equipped, 122,672 are charcoal users and 70,431 are firewood users. The weighted average gives 16% as per emission reduction calculation sheet /2.2/. Verification team has checked the calculation and found OK.
	Monitoring Equipment	Not Applicable
	Monitored Value	16% as verified from the ER sheet /2.2/.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not Applicable
	Is the accuracy valid for the entire measuring range or do	Not Applicable

	different accuracy levels apply to different measuring ranges?	
	Calibration frequency/interval:	Not Applicable
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, pending until the findings are closed or as per the manufacturer's specifications?	Not Applicable
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not Applicable
	Is(are) calibration(s) valid for the whole reporting period?	Not Applicable
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not Applicable
	How were the values in the monitoring report verified?	PP has applied the Methodology default values. Weighted average values regarding the type of stoves (0.1 for wood users and 0.2 for charcoal users). During the current monitoring period, on the 193,103 households equipped, 122,672 are charcoal users and 70,431 are firewood users. The weighted average is calculated to be 16% which is in line with the emission reduction calculation sheet /2.2/. Verification team has checked the calculation and found OK.

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensure correct transfer of data and reporting of emission reduction and all necessary QA/QC processes are in place.
Findings	No finding raised in this respect.	
Conclusion	The parameter, “Efficiency of baseline stoves” has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) /05/ and applied methodology /06/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan /05/. The verification team is able to confirm that the project is implemented as per the registered PD /05/ and there is no discrepancy observed between the actual monitoring system and the monitoring plan set out in the project description /05/ and the applied methodology /06/. The data has been verified from ER calculation sheet /2.2/ submitted to the verification team.	

Monitored Parameter		
Data/Parameter	$\eta_{new,y,i,j}$	
Data Unit	Fraction	
Description	Efficiency of the improved cookstove type i and batch	
Means of Verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading/Recording Frequency	As per the registered VCS PD /05/, the parameter is to be monitored annually through Water Boiling Test. The same is followed during this monitoring period as confirmed from the WBT conducted by CRUEA (competent authority) /08/ and ER sheet /2.2/. The WBT test has been conducted on 25/01/2024 i.e. after end of the monitoring period (01-January-2023 to 31-December-2023) which is conservative considering the

		efficiency reduce over time. Hence the same is accepted to the verification team.			
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes/ No)	Yes			
	Description of measurement methods and procedures applied	Measured based on a representative sample. Sampling standard used for determining the sample size to achieve 90/10 confidence precision according to the latest version of Standard for sampling and surveys for CDM project activities and programme of activities, version 09.0 /26/ as confirmed from tab “Sample size” of ER calculation sheet /2.2/. For each batch i.e. year 2020, year 2021 and year 2022, random samples were selected from samples of “Monitoring survey” as confirmed from tab “WBTs MR3” of ER calculation sheet /2.2/. Sample size has been calculated to achieve 90/10 precision. The sample size required was 2 stoves and 3 stoves after oversampling of 20%. 3 stoves have therefore been tested per batch and per type of fuel (wood and charcoal) used as confirmed from the WBT conducted by CRUEA (competent authority) /08/ and ER sheet /2.2/. For each batch i.e. year 2020, year 2021 and year 2022, Precision was achieved as confirmed from tab “WBTs MR3” of ER calculation sheet /2.2/.			
	Monitoring Equipment	Calibrated equipment were used under the WBT test as confirmed from the calibration certificates /09/.			
	Monitored Value	Batch Efficiency	Batch 2020	Batch 2021	Batch 2022

		Average efficiency	30.4%	31.4%	31.6%	
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not Applicable				
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable for the parameter.				
	Calibration frequency/interval:	Not applicable for the parameter.				
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, pending until the findings are closed or as per the manufacturer's specifications?	Not applicable for the parameter as already stated.				
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibrated equipment were used under the WBT test as confirmed from the calibration certificates /09/. CRUEA laboratory did the calibration which is a competent authority.				
	Is(are) calibration(s) valid for the whole reporting period?	Not applicable for the parameter as already stated.				
	Is the calibration carried out for a measuring range	Not applicable for the parameter as already stated.				

	comparable with the range for which measurements have been carried out?				
	How were the values in the monitoring report verified?	Batch Efficiency	Batch 2020	Batch 2021	Batch 2022
		Average efficiency	30.4%	31.4%	31.6%
		Project Stoves are tested using WBTs which was conducted by CRUEA in the department of physics of the University of Burundi for thermal efficiency. The monitoring of the parameter has been conducted following the VCS PD /05/. The WBTs have been conducted on both ICS using charcoal and ICS using firewood, the most conservative results (efficiency of ICS using firewood have been used). The values have been checked by the verification team from the WBT conducted by CRUEA (competent authority) /08/ and ER sheet /2.2/.			
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensure correct transfer of data and reporting of emission reduction and all necessary QA/QC processes are in place.			
Findings	CL-01 and CAR-03 were raised and successfully closed. Refer Appendix II of this report for more details.				
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) /05/ and applied methodology /06/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan /05/. The verification team is able to confirm that the project is implemented as per the registered PD /05/ and there is no discrepancy observed between the actual monitoring system and the monitoring plan set out in the registered PD /05/ and the applied methodology /06/.				

	The data has been verified from the WBT conducted by CRUEA (competent authority) /08/ and ER sheet /2.2/.
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Monitored Parameter		
Data/Parameter	μy	
Data Unit	Fraction	
Description	Adjustment to account for any continued use of pre-project devices during the year y	
Means of Verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading/Recording Frequency	As per the applied methodology /06/ and registered VCS PD /05/, the parameter is to be recorded at least once every two years through monitoring survey. The same is followed during this monitoring period as confirmed from the Monitoring survey /17/ and ER sheet /2.2/. The monitoring survey has been conducted from 30/12/2023 to 20/01/2024 and the previous survey was conducted from 30/12/2022 to 10/01/2023.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes/ No)	Yes
	Description of measurement methods and procedures applied	Measured based on a representative sample. Sampling standard used for determining the sample size to achieve 90/10 confidence precision according to the latest version of Standard for sampling and surveys for CDM project activities and programme of activities, version 09.0 /26/ as confirmed from tab "Sample size" of ER calculation sheet /2.2/. For each batch i.e. year 2020, year 2021 and year 2022, random samples were selected as

		confirmed from tab “SK project Database” of ER calculation sheet /2.2/. The survey of the households has been conducted by OBEN team through Kobo ToolBox as confirmed from the interviews and ER calculation sheet /2.2/. The parameter was assessed during surveys. Users where asked if they were still using baseline stoves. The employees were found competent for the monitoring survey and trainings /19/ were provided to them. For each batch i.e. year 2020, year 2021 and year 2022, Precision was achieved as confirmed from tab “Monitoring surveys MR3” of ER calculation sheet /2.2/.			
	Monitoring Equipment	Not Applicable			
	Monitored Value	Batch My My 1-μy	Batch 2020 5.3% 94.7%	Batch 2021 1.85% 98.1%	Batch 2022 0.7% 99.3%
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer’s specification?	Not Applicable			
	Is the accuracy valid for the entire measuring range or do	Not applicable for the parameter.			

	different accuracy levels apply to different measuring ranges?																	
	Calibration frequency/interval:	Not applicable for the parameter.																
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, pending until the findings are closed or as per the manufacturer's specifications?	Not applicable for the parameter as already stated.																
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable for the parameter as already stated.																
	Is(are) calibration(s) valid for the whole reporting period?	Not applicable for the parameter as already stated.																
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable for the parameter as already stated.																
	How were the values in the monitoring report verified?	<table border="1"> <tr> <td>Batch</td><td>Batch 2020</td><td>Batch 2021</td><td>Batch 2022</td></tr> <tr> <td>My</td><td></td><td></td><td></td></tr> <tr> <td>My</td><td>5.3%</td><td>1.9%</td><td>0.7%</td></tr> <tr> <td>1-μy</td><td>94.7%</td><td>98.1%</td><td>99.3%</td></tr> </table>	Batch	Batch 2020	Batch 2021	Batch 2022	My				My	5.3%	1.9%	0.7%	1- μ y	94.7%	98.1%	99.3%
Batch	Batch 2020	Batch 2021	Batch 2022															
My																		
My	5.3%	1.9%	0.7%															
1- μ y	94.7%	98.1%	99.3%															

		The total sample size for the current monitoring period was identified as 135 households. The value is checked from the Monitoring survey records /17/ and the ER calculation sheet /2.2/ and found OK.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensure correct transfer of data and reporting of emission reduction and all necessary QA/QC processes are in place.
Findings	CL-01 was raised and successfully closed. Refer Appendix II of this report for more details.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) /05/ and applied methodology /06/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan /05/. The verification team is able to confirm that the project is implemented as per the registered PD /05/ and there is no discrepancy observed between the actual monitoring system and the monitoring plan set out in the registered PD /05/ and the applied methodology /06/. The data has been verified from PP's monitoring survey /17/ submitted to the verification team. Further, it was cross- checked by applying acceptance sampling based on "Sampling and surveys for CDM project activities and programmes of activities", v9.0 /26/ and determining 10 households as samples for interviews during the on- site visit.	

Monitored Parameter		
Data/Parameter	Date of commissioning of batch j	
Data Unit	Date	
Description	To establish the date of commissioning, the Project Participant may opt to group the devices in "batches" and the latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch.	
Means of Verification	Criteria/Requirements	Assessment/Observation

	Measuring/Reading/Recording Frequency	Fixed and recorded at the time of commissioning/distribution of the last project device in the batch as mentioned in the VCS-PD /05/ and MR /1.2/.															
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes/ No)	Yes															
	Description of measurement methods and procedures applied	Fixed and recorded at the time of commissioning/distribution of the last project device in the batch as mentioned in the VCS-PD /05/ and MR/1.2/.															
	Monitoring Equipment	Not Applicable															
	Monitored Value	<table border="1"> <tr> <td>Batch</td><td>Batch 2020</td><td>Batch 2021</td><td>Batch 2022</td></tr> <tr> <td>Date</td><td></td><td></td><td></td></tr> <tr> <td>Date of commissioning</td><td>10/06/2020</td><td>02/01/2021</td><td>07/01/2022</td></tr> </table> Verification team has verified the same from the distribution database /11/.				Batch	Batch 2020	Batch 2021	Batch 2022	Date				Date of commissioning	10/06/2020	02/01/2021	07/01/2022
	Batch	Batch 2020	Batch 2021	Batch 2022													
Date																	
Date of commissioning	10/06/2020	02/01/2021	07/01/2022														
Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with	Not Applicable																

	local/national standards, or as per the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not Applicable
	Calibration frequency/interval:	Not Applicable
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, pending until the findings are closed or as per the manufacturer's specifications?	Not Applicable
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not Applicable
	Is(are) calibration(s) valid for the whole reporting period?	Not Applicable
	Is the calibration carried out for a measuring range comparable with the range for which	Not Applicable

	measurements have been carried out?				
	How were the values in the monitoring report verified?	Batch Date	Batch 2020	Batch 2021	Batch 2022
		Date of commissioning	10/06/2020	02/01/2021	07/01/2022
		The date of commissioning of each batch of stove distributed is sourced from the Project database /11/.			
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensure correct transfer of data and reporting of emission reduction and all necessary QA/QC processes are in place.			
Findings		No finding raised in this respect.			
Conclusion		The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) /05/ and applied methodology /06/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan /05/. The verification team is able to confirm that the project is implemented as per the registered PD /05/ and there is no discrepancy observed between the actual monitoring system and the monitoring plan set out in the project description /05/ and the applied methodology /06/. The data has been verified from the Project database /11/ submitted to the verification team.			

Monitored Parameter	
Data/Parameter	Life Span
Data Unit	Number of years

Description	The operating lifetime of the project device. The life span should be reported if the methodology equation 5 is adopted to determine the project stove efficiency	
Means of Verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading/Recording Frequency	Once at the time of project stove installation as mentioned in the VCS-PD /05/ and MR /1.2/.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes/ No)	Yes
	Description of measurement methods and procedures applied	Manufacturer's specification supported by CRUEA Lab /10/ as mentioned in the VCS-PD /05/ and MR /1.2/.
	Monitoring Equipment	Not applicable for the parameter.
	Monitored Value	8 years
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applicable for the parameter.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable for the parameter.
	Calibration frequency/interval:	Not applicable for the parameter.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the	Not applicable for the parameter.

	monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, pending until the findings are closed or as per the manufacturer's specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable for the parameter.
	Is(are) calibration(s) valid for the whole reporting period?	Not applicable for the parameter.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable for the parameter.
	How were the values in the monitoring report verified?	The value is 8 years. The value used has been verified from the manufacturer's specifications /10/ of the improved cookstoves supported by CRUEA lab.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensure correct transfer of data and reporting of emission reduction and all necessary QA/QC processes are in place.
Findings	No finding raised in this respect.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) /05/ and applied methodology /06/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan /05/. The verification team is able to confirm that the project is implemented as per the registered PD /05/ and there is no discrepancy observed between the actual	

	monitoring system and the monitoring plan set out in the project description /05/ and the applied methodology /06/. The data has been verified from the manufacturer's specifications /10/ of the improved cookstoves supported by CRUEA lab.
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Sampling approach:

By the end of current monitoring period, the project activity has installed 193,103 number of the ICS. As defined in the registered VCS PDD /05/, the PP has applied sampling approach for measurement and determination of the monitoring parameters i.e. the share of operating stoves and the continued use of pre-project devices as outlined below. The sampling approach was checked and verified by the assessment team as below.

Determination of the Sample Size:

A sample size has been determined by the PP to meet reliability requirements. Parameter values have been estimated as per the requirements in AMS-IL.G. As per methodology para 48, "When biennial inspection is chosen a 95 per cent confidence interval and a 10 per cent margin of error shall be achieved for the sampling parameter. On the other hand, when the project proponent chooses to inspect annually, a 90 per cent confidence interval and a 10 per cent margin of error shall be achieved for the sampled parameters. In cases where survey results indicate that 90/10 precision or 95/10 precision are not achieved, the lower bound of the 90 per cent or 95 per cent confidence interval of the parameter value may be chosen as an alternative to repeating the survey efforts to achieve the 90/10 or 95/10 precision". An annual inspection has been conducted for this monitoring period and thus the sample size has been calculated to obtain a 90/10 confidence precision.

The sample size for estimating the proportional parameters i.e. the share of operating stoves and the proportion of meals cooked with preproject devices (continued use of pre-project devices) is calculated using the formula provided in the "Guideline: Sampling and surveys for CDM project activities and PoAs" Appendix 1 para 12:

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

The monitoring of pop_y (share of operating stoves) and the proportion of meals cooked with pre-project devices is based on the same sample, which is the sample with the larger sample size of the two.

For the average efficiency of the cookstoves, the sample size is calculated using the formula mentioned in the "Guideline: Sampling and surveys for CDM project activities and PoAs" version 04.0 (simple random sampling, Appendix 1, para.51) applicable to the determination of a mean value parameter:

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

In general, if the sample size calculation returns a value of less than 30 samples, a minimum sample size of 30 is chosen when the parameter of interest is a proportion. If the parameter of interest is a numeric mean value (i.e. not a proportion or percentage) the student's t-distribution is used if the resulting sample size is less than 30.

The t-value depends on (i) the level of confidence (90%) and (ii) the size of the sample (n=40, with oversampling). The exact figure is derived in Microsoft Excel using the TINV function, as per para. 13 of the "Guideline: Sampling and surveys for CDM project activities and PoAs."

Please refer tab "Sample size" to the ER calculations /2.2/ for a detailed calculation.

The following minimum sample sizes (after oversampling) have been calculated:

Calculation of sample size of proportions (90/10 confidence/precision)

Batch 2020

Parameter	$Z_{\alpha/2}$	N	p	Minimum sample size	Final sample size	Monitoring precision achieved
pop household,y	1.645	17,919	92.50	27	45	Yes
1-U _y	1.645	17,919	98.72	5	45	Yes

Batch 2021

Parameter	$Z_{\alpha/2}$	N	p	Minimum sample size	Final sample size	Monitoring precision achieved
pop household,y	1.645	60,146	92.11	29	45	Yes
1-U _y	1.645	60,146	91.23	33	45	Yes

Batch 2022

Parameter	$Z_{\alpha/2}$	N	p	Minimum sample size	Final sample size	Monitoring precision achieved
pop household,y	1.645	115,038	95	18	45	Yes
1-U _y	1.645	115,038	97.75	9	45	Yes

Calculation of sample size of means (90/10 confidence/precision)

The WBTs are conducted annually for each batch. For this monitoring period, stoves distributed from batch 2020 those from batch 2021 and stoves from batch 2022 have been tested on January, 25, 2024.

Batch 2020 tested in 2024

Parameter		N	SD	Mean	Calculated sample size	Calculated sample size w/ oversampling	Final sample size	Precision achieved
efficiency	1.645	17,919	0.0022	29.6%	1	2	3	0%

Batch 2021 tested in 2024

Parameter		N	SD	Mean	Calculated sample size	Calculated sample size w/ oversampling	Final sample size	Precision achieved
efficiency	1.645	60.146	0.0002	30.8%	1	2	3	1%

Batch 2022 tested in 2024

Parameter		N	SD	Mean	Calculated sample size	Calculated sample size w/ oversampling	Final sample size	Precision achieved
efficiency	1.645	115,038	0.0003	30.8%	1	2	3	0%

Final total sample sizes during this monitoring period have been 135 households for Monitoring survey and 9 households for WBT.

A sample of 135 households have been drawn among the full database of the participating households. The sample have been drawn by AERA Group, and the identification of the 135 households have been shared with OBEN for the monitoring.

The verification team has confirmed that the project meets the desired precision that has been mentioned in the monitoring plan. The reliability calculations for the operating (for Batch 2020, 2021 and 2022) have been summarized in the table above.

Selection of Samples for Survey:

The PP has used the random selection technique for the selection of the samples. A random auto-number generator (excel's RAND function) has been used.

The survey of the households was conducted with the help of the Kobo Toolbox, a tool for collection and storage of stove information, GPS coordinates, pictures of end-user agreements etc. Out of total beneficiaries 135 samples are randomly selected and further used for monitoring survey purpose.

The verification team has accessed the random numbers generated during selection from the ER sheet /2.2/ and matched it with the monitoring survey results /17/. It is found and concluded that the PP has used as robust and accurate mechanism for selection samples and all the samples selected for the survey are randomly selected.

Verification of the Sampling survey by the Assessment team

The assessment team has checked and verified the ICS distribution database as provided by the PP and total number of installed stoves are verified from the 193,103 stoves distributed. Thus, the PP has correctly considered the population size N in determination of sample size.

The registered PD mentions the 90/10 confidence/precision ration for sample determination and the same has been correctly applied. An annual inspection have been conducted for this monitoring period, the sample size has been calculated to obtain a 90/10 confidence precision.

The assessment team used the acceptance sampling approach and a sample size of 10 was determined, based on 0.5% Acceptable quality level and 15% unacceptable quality level with 5% of producer risk and 20% of consumer risk in line with para 30 and 31 of “Sampling and surveys for CDM projects activities and programmes of activities” version 09.0 respectively. Thus, the acceptance number taken by the assessment team is 0.

PP had arranged an onsite audit for the interviews of the samples. Assessment team interviewed all 10 samples, and the operational status of the stoves was checked. it was observed that no discrepant records were observed with the survey data of the PP. A trained team from PP's side conducted the survey which has been confirmed during the interviews of PP representatives, employees and training supportive /19/.

As confirmed during the interviews, the sampling was carried out based on the latest Guideline for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 04. PP has opted for representative sampling due to the dissemination of large number of ICS under the project, which will involve grouping and sampling across project instances. The sampling has been done to obtain an unbiased and reliable estimate of the proportion. Verification team confirms that the best sampling frame for the population would be simple random sampling on the monitoring survey results produced by the PP.

Furthermore, the emission reductions have been calculated in accordance with the applied methodology VMRO006 version 1.1 /06/ and VCS PD/05/. The PP has used the monitoring data and ex-ante fixed data including default values as mentioned in VCS PD /05/ and applied methodology /06/. The values used for calculation of GHG emission reductions have been thoroughly checked by the verification team and is found to be appropriate and correct.

Opinion: The verification team confirms;

- The monitoring plan has been implemented as per the registered VCS PD /05/;
- The monitoring complies with the requirement of the applied methodology /06/;
- The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included above under monitoring parameter and confirms to the requirement of the VCS PD /05/;
- The values included in the monitoring report /1.2/ and corresponding emission reduction sheet /2.2/ are verified and included under monitoring parameter, wherever appropriate.

Parameters not monitored/ex-ante:

S. No.	Data/Parameter, Unit	Description	Assessment
1.	Bold (tonnes/year)	Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices.	A value of 4.531 tonnes of firewood equivalent per house household per year has been applied. The value has been sourced from a study conducted by CIRAD for the city of Bukavu /29/. The study highlights average number of persons per households, as well as average charcoal and firewood consumption per capita and per day. The value was fixed at the time of validation. It is found to be consistent with the VCS PD /05/, MR /1.2/ and the ER sheet /2.2/.
2.	np (Fraction)	Efficiency of the project stove at the start of project activity	The applied value is 0.321 which sourced from Manufacturer's specifications based on WBT results. The value was fixed at the time of validation. The value is found to be consistent with the VCS PD /05/, MR /1.2/ and the ER sheet /2.2/.
3.	fNRB,y (Percentage)	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass	PP has applied the value of 84.02% which was fixed ex-ante at the time of validation. The value has been calculated by determining the share of renewable and non-renewable woody biomass consumption for the country. The verification team found the value applied to be consistent with the VCS PD /05/, MR /1.2/ and the ER sheet /2.2/.
4.	NCVbiomass (TJ/tonne)	Net calorific value of the non-renewable woody biomass that is substituted	A default value of 0.0156 has been applied in accordance with the applied methodology, VMR0006 v1.1 /06/. The value was fixed ex-ante at the time of validation and is found to be consistent with the VCS PD /05/, MR /1.2/ and the ER sheet /2.2/.
5.	EFwf,CO2 (tCO2/TJ)	CO2 emission factor for the use of wood fuel in baseline scenario	A default value of 112 has been applied in accordance with the applied methodology, VMR0006 v1.1 /06/. The value was fixed ex-ante at the time of validation and is found to be consistent with the VCS PD /05/, MR /1.2/ and the ER sheet /2.2/.
6.	EFwf,non CO2 (tCO2/TJ)	Non-CO2 emission factor for the use of wood fuel in baseline scenario	A default value of 26.23 has been applied in accordance with the applied methodology, VMR0006 v1.1 /06/. The value was fixed ex-ante at the time of validation and is found to be consistent with the VCS PD /05/, MR /1.2/ and the ER sheet /2.2/.

Opinion:

In the opinion of assessment team, ex-ante parameter values that were applied in the calculations is consistent with registered VCS PD /05/ and correctly applied in MR /1.2/, emission reductions spreadsheet /2.2/ and justified.

Assessment of Data and Calculation of GHG emission reductions:

According to the approved methodology VMR0006, Version 1.1 /06/, Emission Reductions are calculated as follows:

The approved methodology does not account for baseline emissions/project emissions separately but quantifies emission reductions as a function of the reduction in the amount of non-renewable biomass fuel consumption in the efficient project stoves as compared to baseline stoves.

Leakage has been considered as default 0.95 in accordance with Section 5.4 of the approved methodology /06/.

The improved cookstove is introduced as energy efficiency measure in the project, therefore equations 1 and 2 of the methodology will be applied to calculate the net GHG emission reductions.

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

Where:

I	=	Indices for the situation where more than one type/model of improved cookstove is introduced to replace three-stone fire
J	=	Indices for the situation where there is more than one batch of improved cookstove of type i
ER_y	=	Emission reductions during year y in t CO ₂ e
$ER_{y,i,j}$	=	Emission reductions by improved cookstove of type i and batch j during year y in t CO ₂ e

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

Where:

$B_{y,savings,i,j}$	=	Quantity of woody biomass that is saved in tonnes per improved cook stove of type i and batch j during year y
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$f_{NRB,y}$	=	Fraction of woody biomass that can be established as non-renewable biomass (fNRB)
$NCV_{wood\ fuel}$	=	Net calorific value of the non-renewable woody biomass that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/tonne)
$EF_{wf,CO2}$	=	CO2 emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 112 tCO2/TJ)
$EF_{wf,non\ CO2}$	=	Non-CO2 emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 26.23 tCO2/TJ)
$N_{y,i,j}$	=	Number of improved cook stoves of type i and batch j operating during year y
0.95	=	Discount factor to account for leakages

The quantity of woody biomass saved $By_{savings,i,j}$ due to implementation of improved cookstoves is estimated using equation 3 as per VCS-PD /05/:

$$By_{savings,i,j} = Bold \times (1 - (\eta_{old} / \eta_{new,i,j})) \quad \text{Equation 3}$$

Where the project households continue to use baseline cookstoves along with improved cookstoves, *Bold* shall be adjusted ex-post based on the percentage of project households found to continue such practice according to Equation 6. For such cases, the quantity of woody biomass saved $By_{savings,i,j}$ due to implementation of improved cook stoves shall be calculated using an adjusted value to account for ex-post use of baseline stoves in addition to improved cookstove.

$$Bold_{adjusted} = Bold \times (1 - \mu_y). \quad \text{Equation 6}$$

Where:

<i>Bold</i>	=	Annual quantity of woody biomass that would have been used in the absence of the project activity (in tonnes per device) to generate useful thermal energy equivalent to that provided by the improved cook stove. The value of <i>Bold</i> can be sourced from historical data or baseline surveys. Alternatively, a default value of 0.5t/capita/year may be used.
$By_{1,new,l,survey}$	=	Annual quantity of woody biomass used by improved cook stoves 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.
$Bold_{adjusted}$	=	Adjusted <i>Bold</i> to account the ex post usage of firewood in baseline cookstove(s) by project households in addition to improved cookstove (in tonnes per device)
μ_y	=	Baseline stove usage factor to account for use of baseline cookstoves along with improved cookstoves

η_{old}	=	Efficiency of baseline cookstove
$\eta_{new,i,j}$	=	Efficiency of the improved cookstove type i and batch j determined through waterboiling test (WBT) during year y Alternatively, efficiency may be determined using Equation 4
η_P	=	Efficiency of project stove (fraction) at the start of project activity,

The quantity of firewood consumed in absence of project activity (*Bold*) shall be determined using an estimation of average annual consumption of firewood per household which may be derived using any of the following options:

- (a) Historical Data. Project proponent shall ensure that the relevance of data is appropriately justified for the target population and is the latest available data from credible source(s).
- (b) Baseline Survey of Local Usage. Project proponent shall carry out a survey of usage prior to implementation of the project activity following the sampling approach described in the latest version of CDM document Sampling and surveys for CDM project activities and programme of activities. Alternatively, the project participant may follow the simple random sampling approach and the minimum sample size should be determined as per the following guidelines:
 - Project target population < 300: Minimum sample size 30
 - Project target population 300 – 1000: Minimum sample size 10% of group size
 - Project target population > 1000: Minimum sample size 100

This simplified approach may also be used for determining minimum sample size for parameters listed under Sections 9.1 and 9.2 in which case it is not requisite for the sample size to meet confidence/precision requirements.

(a) Minimum Service Level. Where historical data or a baseline survey has not been conducted, a default value of 0.5 ton/capita/year may be considered as the baseline biomass consumption. Household size shall be determined using credible references/literature or target population specific surveys. The survey shall be conducted as per guidelines outlined in option (b) above.

The equations below shall be used for calculating biomass consumed in absence of project activity in case more than one project stove is used in household:

$$B_{old,i,j} = B_{old,HH} \div N_{d,HH}$$

$$B_{old,HH} = B_{old,p} \times N_{p,HH}$$

Where:

Bold, p	=	Annual quantity of woody biomass that would have been used per person in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices (tonnes/person/year)
Np, HH	=	Average number of households
Nd,HH	=	Number of project devices per household
Bold, HH	=	Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices (tonnes/household/year)

As per section 8.4 of the applied methodology /06/, Bold can be estimated using historical data (Option a). This option is chosen for the determination of Bold. Therefore, above parameters are determined using historical data.

The consumption of woody biomass is retrieved from most recent, credible and project specific data available from credible source.

Determination of Bold,p

A recent report⁴ from CIRAD published in June 2020 concluded that 0.31kg of charcoal and 0.05kg of firewood was used per person and per day in Bukavu (project area) which corresponds to yearly consumption per person of 113.15kg of charcoal and 18.25 kg of firewood or 0.697⁵ tonnes of woody biomass per person and per year.

Therefore, data from CIRAD as most recent and more conservative used for Bold,p

Determination of Np,HH

A report⁶ from Secure Livelihood Research Consortium in the South Kivu province and published in 2015, estimated that the average household size was 6.7 persons per household, while the cited report from CIRAD estimated number of persons per household at 6.5 persons. The value from CIRAD report as most recent and conservative available data regarding the project boundary is selected to estimate the average household size.

Determination of Nd,HH

As the project distributed only one ICS per household, therefore the Nd,HH value is 1

⁴ https://agritrop.cirad.fr/600193/1/20211111_Rapport_Consommation_Bukavu_Vf.pdf

⁵ Considering a wood-to-charcoal of 6 as per methodology applied.

⁶ https://assets.publishing.service.gov.uk/media/57a08985ed915d3cfd0002b8/WP30_governance-Democratic-Republic- Congo.pdf

All the parameters are resumed in the table below:

Parameter	Value	Source
Bold,p	0.697 tonne	CIRAD report /29/.
Nd,HH	1	Ex-ante estimation and distribution database /11/
Np,HH	6.5	CIRAD report /29/.
$\mu y,2020$	5.3%	Ex-post calculation /2.2/.
$\mu y,2021$	1.9%	Ex-post calculation /2.2/.
$\mu y,2022$	0.7%	Ex-post calculation /2.2/.
Bold,HH	4.53	Calculated

Determination of Bysavings

$$B_{y,savings,i,j} = \text{Bold} \times (1 - (\eta_{old} / \eta_{new,i,j}))$$

Batch (Year)	Bold adjusted(tonnes)	$\eta_{new,i,j}$	η_{old}	$B_{y,savings,i,j}$ (tonnes)
2020	4.53	30.4%	16%	2.09
2021	4.53	31.4%	16%	2.17
2022	4.53	31.6%	16%	2.18

Bold is an ex-ante parameter and justified above under this section. Also $\eta_{new,i,j}$ and η_{old} are ex-post parameters which are justified above under this section. Verification team has checked the calculation of $B_{y,savings,i,j}$ under the ER calculation sheet /2.2/ and found OK.

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

For Batch 1 (2020):

ER	$fNRB,y$	$NCV_{wood\ fuel}$	$(EF_{wf,CO2} + EF_{wf,non\ CO2})$	$By,savings,i,j$	Ny,i,j	Pop stove	Leakge	$1-u_y$
55,695	84%	0.0156	138.2	2.09	16,326	91.1%	0.95	94.7%

For Batch 2 (2021):

ER	$fNRB,y$	$NCV_{wood\ fuel}$	$(EF_{wf,CO2} + EF_{wf,non\ CO2})$	$By,savings,i,j$	Ny,i,j	Pop stove	Leakge	$1-u_y$
205,648	84%	0.0156	138.2	2.17	56,136	93.3%	0.95	98.1%

For Batch 3 (2022)

ER	$fNRB,y$	$NCV_{wood\ fuel}$	$(EF_{wf,CO2} + EF_{wf,non\ CO2})$	$By,savings,i,j$	Ny,i,j	Pop stove	Leakge	$1-u_y$
400,436	84%	0.0156	138.2	2.18	107,369	93.3%	0.95	99.3%

$fNRB,y$, $NCV_{wood\ fuel}$, $EF_{wf,CO2}$ and $EF_{wf,non\ CO2}$ are the ex-ante parameters and Ny,i,j and μ_y are the ex-post parameters. Verification team has checked the ER calculation under the ER sheet /2.2/ and found correct.

The total emission reductions achieved during this monitoring period are therefore $55,695+205,648+400,436 = 661,779$ tCO₂e.

The results of the emission reduction are shown in the table below:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-Jan-2023 to 31-Dec-2023	661,779	0	0	661,779	0	661,779
Total	661,779	0	0	661,779	0	661,779

Opinion:

The verification team confirms that

- The complete data set for the identified and required parameter for the operational days in the current monitoring period was available;
- The reported data has been cross checked with available records, as indicated in the section 4.3 above under monitored data, wherever appropriate;
- The baseline, project and leakage emissions have been determined in accordance with the requirement of the applied methodology, as contained in the final monitoring report and corresponding emission reductions spreadsheet;
- The assumptions, emission factors and default values used are justified, as indicated in the section 4.3 above.

4.4 Quality of Evidence to Determine Reductions and Removals

All relevant documents were checked to assess the correctness and quality of data submitted by the project participants, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan /05/. No significant lack of evidence and missing data were detected during desk review and remote interviews/physical site visit. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures. The monitoring parameters have been measured / determined without material misstatements and is in line with all applicable standards and relevant requirements. The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included in section 4.3 under each parameter and confirms to the requirement of the PD /05/.

It was also verified that the project's team involved in the monitoring of project activity is well experienced. Hence, the verification team concludes that competent staff is employed by the project proponent to carry out the relevant tasks with sufficient accuracy. Furthermore, it was confirmed that internal training program for the monitoring staff are conducted on regular basis.

Evidences referred for verification of individual monitoring parameter and fixed parameter are defined under section 4.3. We further confirm that, sufficient evidence covering the entire monitoring period and at the required frequency were available. A list of referred documents for verification is also included in Appendix I of this report.

4.5 Non-Permanence Risk Analysis

Not applicable.

5 VERIFICATION OPINION

5.1 Verification Summary

4K Earth Science Pvt. Ltd. (4KES), contracted by 'AERA Group', has performed the independent verification of the emission reductions for the VCS project activity (VCS ID - 2636) "EASTERN DRC COOKSTOVE PROJECT-SOUTH KIVU" in Democratic Republic of Congo for the monitoring period 01-January-2023 to 31-December-2023 as reported in the Monitoring Report Version 4.0 dated 11/04/2024. OBEN EAC S.A. are responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity. It is our responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity.

4KES commenced the verification on the basis of the baseline and monitoring methodology VMR0006 - Version 1.1, the monitoring plan contained in the registered VCS PD /05/ and Monitoring Report (Version 4.0 dated 11/04/2024) as per the process described under Section 2 of this report.

4KES 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. 4KES planned and performed the verification by obtaining evidence and other information and explanations that 4KES considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 01-January-2023 to 31-December-2023 are fairly stated in the Monitoring Report Version 4.0 dated 11/04/2024. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology VMR0006 - Version 1.1 and the VCS standard v4.5 /03/. Verification team confirm that verification of the GHG statement was conducted in accordance with ISO 14064-3: 2019.

5.2 Verification Conclusion

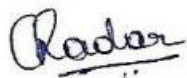
In our opinion the GHG emissions reductions reported for the project activity for the period 01-January-2023 to 31-December-2023 are fairly stated in the Monitoring Report Version 4.0 dated 11/04/2024. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology VMR0006 - Version 1.1 and the VCS standard v4.5 /03/. Verification team confirm that verification of the GHG statement was conducted in accordance with ISO 14064-3: 2019.

Verification period: From 01-January-2023 to 31-December-2023

Verified GHG emission reductions and carbon dioxide removals in the above verification period:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCUs (tCO ₂ e)
2023 (01-January-2023 to 31-December-2023)	661,779	0	0	661,779	0	661,779
Total	661,779	0	0	661,779	0	661,779

Approved by



Chandrakala R.

Director

4K Earth Science Private Limited

Date: 11-April-2024

Place: Bangalore, India

5.3 Ex-ante vs Ex-post ERR Comparison

The comparison of the estimated ex-ante GHG emission reductions and removals and the achieved emission reductions and removals for this monitoring period are reported in the below table.

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
2023 (01-January-2023 to 31-December-2023)	679,099 tCO ₂ e	661,779 tCO ₂ e	-3%	The ex-post emission reductions for this monitoring period are less than the ex-ante emission reductions for this monitoring period which is found accepted to the verification team. The difference is due to the Ny,i,j
Total	679,099 tCO₂e	661,779 tCO₂e	-3%	

				parameter that correspond to the number of operational stoves. In the PD /05/, it was estimated that 200,000 ICS would be operational in 2023, however only 179,831 stoves are operational.
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APPENDIX I: LIST OF DOCUMENTS

/1/	/1.1/ Monitoring Report, Version 1.0, dated 26/01/2024 (Initial Version) /1.2/ Monitoring Report, Version 4.0, dated 11/04/2024 (Final Version)
/2/	/2.1/ Draft Emission Reduction Calculation Sheet (corresponding to initial Version of VCS MR) /2.2/ Final Emission Reduction Calculation Sheet (corresponding to final Version of VCS MR)
/3/	VCS Standard Version v4.5 https://verra.org/project/vcs-program/rules-and-requirements/
/4/	VCS Program Guide, v4.4 https://verra.org/project/vcs-program/rules-and-requirements/
/5/	Registered VCS PD version 1.8, dated 01/10/2022 and Validation report version 1.2, dated 07/10/2022 https://registry.verra.org/app/projectDetail/VCS/2636
/6/	Approved monitoring methodology: VMR0006: Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1 https://verra.org/methodologies/vmr0006-methodology-for-installation-of-high-efficiency-firewood-cookstoves/
/7/	Websites referred: http://www.itouchmap.com/latlong.html (Latitude-Longitude location finder)
/8/	WBTs conducted for the project activity stoves by CRUEA (UNIVERSITY OF BURUNDI FACULTY OF SCIENCES DEPARTMENT OF PHYSICS)
/9/	Calibration certificates of the equipment used for WBT
/10/	Manufacturers / Technical specification of the ICS from CRUEA lab (UNIVERSITY OF BURUNDI FACULTY OF SCIENCES DEPARTMENT OF PHYSICS)
/11/	Implementation status: Project distribution database
/12/	Organization structure for the project activity along with roles and responsibility
/13/	Grievance mechanism supportive
/14/	Company registration certificate
/15/	Supportive for the start date of the project activity
/16/	Photographs of project stove and baseline practice
/17/	Monitoring survey conducted during this monitoring period by PP

/18/	Manuals: 1. Installation and use manual 2. Production process of cook-stoves
/19/	Training of staff
/20/	End user agreement (warranty card and Carbon rights transfer)
/21/	Maintenance database: routine maintenance and follow up visits
/22/	Job creation: List of employees with their income and contracts
/23/	Declaration/Confirmation from PP regarding not having created or sought any other form of environmental credits for the same period, dated 19/02/2024
/24/	Contract signed between OBEN EAC S.A. and the Diocesan Center for the Protection of the Environment (CDPE) of Uvira on 26/05/2017
/25/	Minutes LSC Eastern DRC cookstoves
/26/	Sampling and surveys for CDM project activities and programmes of activities, version 09.0 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20210531160756223/Meth_Stan05.pdf
/27/	Guideline for Sampling and surveys for CDM project activities and programme of activities, version 04 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20151023152925068/Meth_GC48_%28ver04.0%29.pdf
/28/	VCS Monitoring Report Template, v4.3 https://verra.org/programs/verified-carbon-standard/vcs-program-details/#rules-and-requirements
/29/	CIRAD Report https://agritrop.cirad.fr/600193/1/202111111_Rapport_Consommation_Bukavu_Vf.pdf

APPENDIX II: VERIFICATION FINDINGS

Table 1. Remaining FAR from validation and/or previous verifications

This is the 3rd periodic verification of the project activity. No FAR was raised during previous verification (2nd periodic Verification).

FAR ID	XX	Section no.		Date: DD/MM/YYYY
Description of FAR				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

Table 2. CL from this verification

CL ID	01	Section no.	4.3	Date: 27/02/2024
Description of CL				
Under section 4.2 of the MR:				
1. For the monitoring parameter “ $\eta_{new,y,i,j}$ ”, PP need to clarify how the monitoring frequency i.e. annual was maintained. Further PP need to clarify whether the calibrated equipments were used during the WBT.				
2. For the monitoring parameter “ μ_y ”, PP need to clarify how the monitoring frequency i.e. Once every 2 years was maintained.				
Project participant response				Date: 27/02/2024
1. Date of the WBT and calibration date of the equipment used have been added. Stoves have been sent to CRUEA in December 2023. Furthermore, the tests were conducted in January 2024, which is less than one year after the 2 nd Monitoring period MP for which WBTs were conducted in May 2023.				
2. Dates of the monitoring surveys are in the monitoring surveys tab “Investigation date”, surveys have been conducted from 30/12/2023, which is less than 2 year compared to monitoring period 2 surveys conducted in December 2022.				
Documentation provided by project participant				
Ex-post Calculation sheet.				
WBTs reports				

DOE assessment	Date: 01/04/2024
1. Clarification has been provided by PP and found OK. Monitoring equipment were calibrated before the WBT test as verified from the calibration record /09/ and WBT records /08/. Further the monitoring frequency for the monitoring parameter “ηnew,y,i,j” i.e. annual was maintained as confirmed from WBT records /08/. Hence this part of CL is closed. 2. Clarification has been provided by PP and found OK. The monitoring frequency for the monitoring parameter “μy” i.e. Once every 2 years was maintained as confirmed from Monitoring survey records /17/. Hence this part of CL is closed.	

Table 3. CAR from this verification

CAR ID	01	Section no.	4.1	Date: 27/02/2024
Description of CAR				
Header of the submitted Monitoring report is not as per VCS MR template. PP need to follow the VCS MR template.				
Project participant response				Date: 27/02/2024
The template header has been revised.				
Documentation provided by project participant				
Revised MR				
DOE assessment				Date: 01/04/2024
Correction has been done in the revised MR /1.2/ and found consistent with the MR template /28/. Hence this CAR is closed.				

CAR ID	02	Section no.	4.2.3	Date: 27/02/2024
Description of CAR				
Under heading “Outcome of FPIC” (Section 2.1.3 of the Monitoring report), PP need to provide assurance that the project has not encroached on land, relocated people without consent, and forced physical or economic displacement. (As per VCS MR template)				
Project participant response				Date: 27/02/2024
Information added in the Monitoring report.				
Documentation provided by project participant				
Revised MR LSC minutes				
DOE assessment				Date: 01/04/2024
Correction has been done in the revised MR /1.2/ and found consistent with the LSC minutes /25/ and stakeholder interviews. Hence this CAR is closed.				

CAR ID	03	Section no.	4.3	Date: 27/02/2024
Description of CAR				
Verification team has found that WBT results mentioned under the tab “WBTs MR3” of the ER sheet are not consistent with the WBT records provided.				
Project participant response				Date: 27/02/2024

The ER sheet have been revised.	
Documentation provided by project participant	
Revised ER sheet	
DOE assessment	Date: 01/04/2024
Corrections have been done in the revised ER sheet /2.2/ and found consistent with the WBT records /08/. Hence this CAR is closed.	

Table 4. FAR from this verification

No FAR raised during this verification.

FAR ID	xx	Section no.		Date: DD/MM/YYYY
Description of CAR				
NA				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

APPENDIX III: TEAM COMPETENCE

<u>Certificate of Competence</u>						
Name	☒ Mr. ☐ Ms.	Chetan Swaroop Sharma				
Qualification Procedure	Fulfil the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.					
Appointed to work as:						
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
<i>Appointed</i>	Yes	Yes	Yes	Yes	Yes	No
<i>Appointed Date</i>	15/07/2023					
Authorized to work as Technical Expert for:						

<i>Authorized Technical Area</i>	Sectoral Scope	TA Code	Technical Area within the scope
	Energy industries (renewable - / non-renewable sources)	1.1	Thermal energy generation
	Energy industries (renewable - / non-renewable sources)	1.2	Renewables
	Energy distribution	2.1	Energy distribution
	Energy demand	3.1	Energy demand
	Waste handling and disposal	13.1	Solid waste and wastewater
	Waste handling and disposal	13.2	Manure
Authorized to work as Local Expert for:			
<i>Country/Countries</i>	India, Mauritius, Vietnam, Senegal and Thailand		
Compliance check by: Anand S. R.			

<u>Certificate of Competence</u>												
Name	☒ Mr. ☐ Ms.	Ma Paa Puratchikkanal										
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.											
Appointed to work as:												
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert						
<i>Appointed</i>	Yes	Yes	Yes	Yes	Yes	No						
<i>Appointed Date</i>	27-04-2021											
Authorized to work as Technical Expert for:												
	Sectoral Scope	TA Code	Technical Area within the scope									

Authorized Technical Area	Energy industries (renewable - / non-renewable sources)	1.1	Thermal energy generation
	Energy industries (renewable - / non-renewable sources)	1.2	Renewables
	Energy demand	3.1	Energy demand
	Construction	6.1	Construction
	Waste handling and disposal	13.1	Solid waste and wastewater
	Waste handling and disposal	13.2	Manure
	Agriculture	15.1	Agriculture
Authorized to work as Local Expert for:			
Country/Countries	India and Sri Lanka		
Compliance check by: Anand S. R.			

APPENDIX IV: ABBREVIATIONS

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse Gases
IPCC	Intergovernmental Panel for Climate Change
MP	Monitoring Period
MR	Monitoring Report

MW	Mega Watt
MWh	Mega Watt hour
PD	Project Description
PP	Project proponent
QA/QC	Quality Assurance/Quality Control
tCO ₂	Tonnes of Carbon Dioxide
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit