



VERIFICATION REPORT FOR FUEL EFFICIENT COOKING IN SOUTH AFRICA



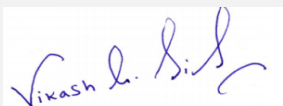
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Summary:

The client TASC SA (PTY) LTD has appointed the validation/verification body Carbon Check (India) Private Ltd. to perform a verification of VCS Grouped Project Activity “Fuel Efficient Cooking in South Africa” in South Africa (hereafter “project activity”) for the period from 20/08/2021 to 09/02/2022 and inclusion of a project instance “Waterberg (PI2-WB)”.

TASC SA (PTY) LTD registered the grouped project activity “Fuel Efficient Cooking in South Africa” under the VCS and included the first project instance, Kruger 2 Canyons (PI1-K2C), on the same date.

The project proponent applied the approved CDM Methodology: VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves v1.1. In addition, the Standard: Sampling and Surveys in CDM Project Activities and Programme of Activities version 9.0; Guidelines: Sampling and Surveys in CDM Project Activities and Programme of Activities version 4.0 are used; these documents include the requirements for sampling and surveys applied to clean development mechanism projects and programme of activities (PoA) and specifies the reliability requirements and describes appropriate sampling methods and what is expected to be provided in a sampling plan.

The verification consisted of the following three phases: i) a desk review of the Monitoring Report ii) Remote Audit; iii) the resolution of outstanding issues and internal technical review followed by the issuance of the final verification report and opinion. In the course of the verification process *03 CARs, 07 CLs and 00 FARs* were raised, all the CARs and CLs are closed now. The list of Clarification and Corrective Actions Requests (CL and CAR) is presented in this report.

CC IPL confirms that the project is implemented in accordance with the validated VCS-PD and the monitoring plan; and then, claimed emissions reductions are calculated without material misstatements. No uncertainties associated with the calculations of emission reductions have been observed by the validation team.

CC IPL has performed the verification of Fuel Efficient Cooking in South Africa on the basis of all issues and criteria of VCS Standard version 4.2 and VCS Program Guide version 4.1 for VCS projects and also on the criteria given to provide for consistent project operations, monitoring and reporting. Hence, in CC IPL's opinion the project correctly applies the baseline and monitoring methodology VM R0006 Methodology for Installation of High Efficiency Firewood Cookstoves v1.1 and meets the relevant UNFCCC requirements for the CDM Methodology, Voluntary Carbon Standard requirements and the relevant host country criteria.

Therefore, CC IPL is able to certify that the emissions reductions from the "Fuel Efficient Cooking in South Africa" project during the period from 20/08/2021 to 09/02/2022 amount to 103,847 tonnes of CO₂e. The year-wise break up of verified emission reduction is as below:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2021 (20/08/2021 to 31/12/2021)	98,995	0	0	98,995
2022 (01/01/2022 to 09/02/2022)	4,852	0	0	4,852
Total	103,847	0	0	103,847

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INTRODUCTION

1.2 Objective

TASC SA (PTY) LTD. (Project Proponent) has appointed CCIPL for verification service for the registered VCS grouped project - “Fuel Efficient Cooking in South Africa” (VCS Project ID 2505) located in South Africa against the requirements of the VCS Program.

Verification is the periodic independent review and ex post determination of both quantitative and qualitative information by a Validation and Verification Body (VVB) of the monitored reductions in GHG emissions that have occurred as a result of the VCS project activity during a defined monitoring period. The purpose of verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data and used to confirm the reductions in emissions is sufficient, definitive and presented in a concise and transparent manner. Carbon Check’s objective is to perform a thorough, independent assessment of the registered projects activities. In particular, the monitoring plan, monitoring report and the project’s compliance are verified against the relevant criteria and guidance documents provided by VCS. This allows for the confirmation that the project has been implemented in accordance with the registered VCS PD and conservative assumptions, as documented. And, also to confirm if the monitoring plan is in compliance with the VCS PD and approved monitoring methodology. The objective of this verification was to verify and certify emission reductions reported for the “Fuel Efficient Cooking in South Africa” for the period 20/08/2021 to 09/02/2022.

1.3 Scope and Criteria

The verification of this project is based on the registered Project Description/B04/, the Monitoring Report of this monitoring period /01/, emission reduction calculation spread sheet /03/, supporting documents made available to the verifier and information collected through performing interviews and during the remote audit assessment. Furthermore, publicly available information was considered as far as available and required.

Carbon Check has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

The verification is carried out on the basis of the following requirements (latest available on VCS website at the time of verification), applicable for this project activity:

- VCS Standard version 4.2
- VCS Program Guide version 4.1
- VCS Validation and Verification Manual version 3.2
- Program Definitions (v4.1)
- Registration & Issuance Process (v4.1)

- Approved VCS methodology (VMR0006 - Methodology for Installation of High Efficiency Firewood Cookstoves, version 1.1)
- Other relevant rules, including the host country legislation

The scope of this verification, by independent checking of objective evidence, is as follows:

- To verify that the project is implemented as described in the project description
- To assess the project's compliance with other relevant rules including the host country legislation.
- To assess the implementation of the monitoring plan content as mentioned in the registered VCS-PD
- 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 /03/, /04/.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

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

1. Completeness check and desk review;
2. Remote Audit;
3. Resolution of outstanding issues and issuance of final verification report and applicable VCS Validation and Verification Deeds of Representation.

Carbon Check (India) Private Ltd. conducts all its work under strict rules to safeguard impartiality and ensure the independence of the verification team. The verification does not provide any consulting or recommendations for the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

1.4 Level of Assurance

- ☒ Reasonable level of assurance
- ☐ Limited level of assurance

The level of assurance of the verification report falls under reasonable assurance engagements as selected by the Client. The verification team verified the complete monitoring data for all the parameters of the monitoring plan and confirms that the reported emission reductions are free from any type of material errors.

1.5 Summary Description of the Project

The project activity 'Fuel Efficient Cooking in South Africa' is a grouped project activity and involves dissemination of improved energy efficient cookstoves (ICS) in South Africa. The ICS disseminated under this grouped project activity is based on rocket stove design principles, which reduces GHG emissions from biomass burning through improved combustion efficiency of wood fuel and decreased wood fuel consumption. Rocket Works Zama Zama rocket stove included in the grouped project activity, with a thermal efficiency of 38.30% is distributed in both the project instances (PI1-K2C and PI2-WB).

The reported monitoring period for the project activity is 20/08/2021 to 09/02/2022. This is the first monitoring period under VCS.

VERIFICATION PROCESS

1.6 Method and Criteria

The method and criteria used for verification:

The verification consists of the following three phases:

1. Completeness check and desk review of the validation report, monitoring plan, monitoring report, monitoring methodology, VCS PD, applicable tools in particular attention to the frequency of measurements, quality of metering equipment's including calibration requirements, QA/QC procedures, any changes to the grouped project activity and new project activity instances and other relevant documents;
2. Remote audit (including follow-up interviews with project stakeholders, when deemed necessary). The remote audit assignment includes the following:
 - An assignment of implementation and operation of project activity with respect to validated VCS PD;
 - Review of information flows for generating, aggregating and reporting the monitoring parameters;
 - Interview with relevant personals to determine whether the operational and data collection procedures are implemented and in accordance with monitoring plan of the validated VCS PD;
 - Cross check of information and data provided in the monitoring report with plant logbooks, inventories, purchase records or similar data sources;

- Check of monitoring equipment's, calibration frequency and monitoring practice in-line with methodology and validated VCS PD;
- Review of assumptions made in calculating the emission reduction;
- Implementation of QA/QC procedure in-line with the validated VCS PD and methodology requirement.

Resolution of outstanding issues and the issuance of the final Verification report and if applicable, the VCS Validation and Verification Deeds of Representation.

1.7 Document Review

The registered VCS PD/B04/, VCS MR /01/, /02/, emission reduction calculation spread sheet /03/, /04/ and supporting documents related to the project implementation, project design, monitoring and baseline were reviewed as per VCS version 04 requirements. The desk review included:

- A review of the data and information presented to verify completeness and consistency in accordance with VCS version 04 requirements;
- A review of the approved monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, quality of monitoring equipment (including calibration requirements) and the quality assurance and quality control (QA/QC) procedures;
- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of emission reductions.

Data input values were also checked from the records maintained by the project proponents. Results of calculations reported in the monitoring report were checked against data values as available from the project proponent in VER calculation sheet /03/, /04/.

These data values and other information related to project performance are available in the form of data records duly archived and maintained as per the quality assurance/quality control procedure specified as a part of monitoring plan in the registered VCS-PD.

Furthermore, the verification team used additional documentation by third parties like host-party legislation, technical reports referring to the project design or to the basic conditions and technical data.

1.8 Interviews

A remote audit to the project activity was undertaken on 22/03/2022 to assess the implementation and operation of the project activity and to review evidence, and interview key personnel to confirm evidence associated with the data generation, aggregation, and calculation and reporting of the monitoring parameters. The remote audit assessment addressed:

- An assessment of the project implementation and operation as per the PD (including physical inspection to confirm physical existence and operation of project components);

- Review of information flows for generating, aggregating and reporting the monitoring parameters;
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the monitoring report /01/, /02/.

The key personnel interviewed, and the main topics of the interviews are summarized in the table below:

S. No.	Name	Organization	Topic
/i/	Lize Kok	TASC SA (PTY) LTD.	Project implementation and operation, Project design, monitoring procedure, data and information flow, compliance of monitoring plan with monitoring methodology and approved VCS-PD, Roles and responsibility, Qualification and Training, CER calculation and completeness of monitoring report, Electronic Monitoring system, Data collection and data flow, Monitoring surveys, Sample size
/ii/	Nick Marshall	TASC SA (PTY) LTD.	Project implementation and operation, Project design
/iii/	Geogina Masie	Project User Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/iv/	Masebodi Ennie Nkoane	Project User Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/v/	Gertrude Miyelani (Sister of User Lucrecia Teng)	Project User Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/vi/	Teresa Sodi (Sister of User Moshia Mable Sodi)	Project User Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/vii/	Nyathi Agnes	Project User Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/viii/	Wellemina Monyane	Project User Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/ix/	Kedibone Lelaka	Project User Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.

/x/	Thithi Shelly Matlala	Project User	Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/xi/	Mmaleso Julia Monyeki	Project User	Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/xii/	Mathebula Marcia	Project User	Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.
/xiii/	Raphalane Mahlo Moses	Project User	Stove	Monitoring usage survey, efficiency testing (if any), stove usage pattern, demographic details.

1.9 Site Inspections

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB, email clarification for Verra guidance on site visits, notification of Covid-19 Travel Guidance for Projects <https://verra.org/covid-19-travel-guidance/> and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the VVB has not conducted an on-site visit for the verification of the project activity.

Therefore, where a VVB can achieve a reasonable level of assurance without conducting a site visit, or through a remote site visit, this is in conformance with the VCS rules, and no request for an exemption or pre-approval from Verra is required. However, where a validation/verification has been conducted without a site visit, or through a remote site visit, please ensure that the applicable section of the verification report includes a discussion of how a reasonable level of assurance was achieved without an in-person site visit”.

Accordingly, Carbon Check has not conducted an on-site inspection. A reasonable level of assurance has been maintained through the alternative means used for the purpose of verification as follows:

- 1) An assessment of the implementation and operation of the project activity as per the registered VCS PD /B04/
- 2) A review of information aggregating and reporting of the monitoring parameters
- 3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the MP (section 2.3 above)
- 4) A cross-check between the electricity sales information provided in the MR /01/ and data from other sources (section 2.3 above).
- 5) A check of the monitoring equipment including calibration performance, and observations of monitoring practices against the requirements of the VCS PD and the applied monitoring methodologies /B02/

- 6) A review of calculations and assumptions made in determining the GHG data and ERs /03/, and
- 7) An identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters
- 8) The duly calibration/testing of all metering equipment was checked.
- 9) The monitoring processes, routines and documentations were audited to check their proper application.
- 10) The monitoring data were checked completely.

The verification team carried out remote interviews with representatives of PP to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for the VCS.

Hence, the VVB has used other standard auditing techniques for validation or verification as referred to in the VCS Rules/ requirements, VCS Validation and Verification Manual, version 3.2.

- Verification team has performed remote interviews on Skype and Whatsapp with PP and the households to check implementation, project boundary, current situation, monitoring and metering equipment, monitoring procedures, sampling plan etc.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR /01/ and supporting documents.
- A check of the monitoring equipment including performance and observations of monitoring practices against the requirements of the registered VCS PD /B04/ and the selected methodology /B02/.

During the remote audit assessment, all monitoring data with respect to accuracy to ensure the calculation of emission reductions was checked. All the procedures and records were found authenticated and properly maintained as per the requirements of the project.

The verification team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for the VCS.

1.10 Resolution of Findings

Material discrepancies identified in the course of the verification are addressed either as CARs, CLs or FARs. **Corrective action requests (CAR)** are issued, where:

- i. Mistakes have been made with a direct influence on project results requiring adjustments of the VERs/VCUs monitoring report;
- ii. Applicable methodological specific requirements have not been met.

A **Clarification request (CL)** may be used where additional information is needed to fully clarify an issue or where the information is not transparent enough to establish whether a requirement is met.

A **forward action request (FAR)** should be issued, where:

- i. The actual project monitoring and reporting practices requires attention and /or adjustment for the next consecutive verification period, or
- ii. An adjustment of the MP is recommended.

In the context of FARs, risks have been identified, which may endanger the delivery of high-quality emissions reductions in the future, i.e. by deviations from standard procedures as defined by the MP. As a consequence, such aspects should receive a special focus during the next consecutive verification. A FAR may originate from lack of data sustaining claimed emission reductions.

A total of 03 CARs and 07 CLs had been raised for the verification of the project activity and all the findings have been closed.

Finding	CL 01		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	The latest version of the MR template (version 4.1) has not been used by the PP in accordance with the §3.4.3 of the VCS Standard, version 4.2.		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	The VCS Standard v4.2. provides a grace period for the use of previous template versions when a new template is published. The latest Monitoring Report Template v4.1 was first published on 19 January 2022. The monitoring surveys for this monitoring period were completed by 7 December 2021, which was before the new template was published. A footnote was added to section 1.11 of the MR to clarify that future monitoring periods will report on the SDG contributions of the project. The footnote states: “The surveys for this monitoring period were completed before publication of the new Monitoring Report Template v4.1. The project will include SDG contribution quantification in future monitoring periods, in accordance with the VCS Standard v4.2. in Appendix 2 point v4.2.4”		
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	PP has clarified that the monitoring report has been completed using the earlier version of the MR in accordance with the VCS Summary of Effective Dates 2022 Q1 document, which provides must be date as 20 July 2022. Also, the demonstration of SDGs for the project activity is to be demonstrated by 20 January 2025. PP has also clarified that the monitoring surveys were conducted prior to the publication of the MR template and		

	thus has decided to report the MR in the earlier version of the monitoring report. PP has also stated that the monitoring surveys were conducted by 7 December 2021, however the end date of the monitoring period is 09 February 2022. PP shall clarify how the survey results carried out before the end date of the monitoring period are applicable to the entire monitoring period.
Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The methodology requires the monitoring frequency of the parameters surveyed, i.e. Uy and Ny,i,j to be “at least once every two years”. Therefore, results of the monitoring survey are valid until the end of the monitoring period, as defined in the MR. Indeed, the survey results remain valid until 19th August 2023.
VVB Assessment #2 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	PP has clarified that the monitoring frequency of the parameters surveyed is once atleast two years. However, it needs to be clarified how the survey results would be applicable to the stoves included after the survey (until the end date of the monitoring period. PP shall refer clarification SSC781 in this regard – “As pointed out in the submission, paragraph 27 of the SSC general guidelines allows survey results to be used for period up to 12 months prospectively for distributed units under certain conditions.” Accordingly PP shall satisfy the conditions in order to apply the survey results prospectively. CL01 remains open.
Corrective Action or clarification #3 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The monitoring survey is in agreement with paragraph 27 of the SSC general guidelines that allows survey results to be used for period up to 12 months prospectively for distributed units under certain conditions, namely: a) The average lifetime of the ICS is approximately five years. The document “RW zamazama lifetime letter” from the manufacturer is provided. b) More than 50% of the devices were functional when the survey was undertaken.
VVB Assessment #3 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	In accordance with the §27 (a) of the General guidelines for SSC CDM methodologies, version 23.1, PP has justified that the average lifetime of the project stoves is 5 years (i.e. more than 4 years). The condition provided in the §27 (a) of the General guidelines for SSC CDM methodologies, version 23.1 is applicable only after the first monitoring survey is

	concluded. Since, the reported monitoring period is the first monitoring period, the condition is not applicable. CL01 is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 02		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	The details of the local stakeholder consultation meeting have been provided in the section 2.2 of the MR for the project instance, PI2-WB. However, a summary of comments received during the LSC process is not provided in the MR.		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	Section 2.2 of the MR was updated to include the comments and feedback received during stakeholder engagements. The text now includes:		
	“How due account of all and any input received during ongoing communications has been taken:		
	The physical stakeholder consultation and community sensitization meetings were conducted in the prevalent language of the region, namely Sepedi. General feedback and questions received during the meetings translated in English are presented below:		
	Question	Answer	
	When will the stoves come	We hope to start in September, that will depend on the paperwork that still needs to be done before distribution can start.	
	Will they be given to every household or only the counsels of respective villages?	A: Every household that uses wood. One stove per household.	

	Will the Ndunas be asked to select households that will be getting stoves?	No, the distributors will go to every household that uses wood.
	Where will we get twigs for the stove?	You will have to get twigs much or less the same way when you collect wood. The difference with the stove is that you will not collect as much wood as you used to collect.
	Life span of the stove.	It is designed to last for 5-7 years
	Are there any employment opportunities for villages?	Unfortunately, MT and TASC cannot employ everybody in the villages. The distributors do not come from far. They come from the villages around Mogalakwena. We have already created employment opportunities for 20 data capturers that earned one week's salary during the baseline survey. If there are any other project that come up, the first preference will be people from the communities.
	How about the three-legged potjies?	The stove before you is a first prototype. Another prototype was developed with holes that can fit three-legged potjies and the pot will be stable.
	Is it washable?	Yes
	Can the stoves come sooner than the September?	That will depend on the paperwork that still needs to be done before distribution can start. If we finish

		earlier than expected, we will engage with TASC to start distribution.	
	Can you distribute more than one cookstove per household?	Unfortunately, we cannot distribute more than one stove per household. We emphasize how fast the stove is to cook with, making it possible to cook complete meals in the same time as on an open fire even if one cooks one dish after the other. The community can also benefit socially by gathering neighbors or families together to cook on multiple stoves.	
	What about our big gatherings when we use big pots?	The stove cannot fit the big pots on special occasions, but it should be good for use on a daily basis.	
	In general, feedback from these meetings is positive towards the stove. The communities recognize how the stove can save them time in collecting wood and in cooking, as well as the amount of wood needed to cook with. None of the comments received during the monitoring period are related to the design of the project, and the design has therefore remained unchanged during this monitoring period."		
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	PP has provided a summary of comments received during the LSC process in the section 2.2 of the MR. CL02 is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CL 03		
Classification	☐ CAR	☒ CL	☐ FAR

Description of finding (VVB)	1. In order to comply with the requirements of the eligibility criterion 2 in the section 3.3 of the monitoring report, the evidence stated - manufacturer's technology description is not provided by the PP. 2. In order to comply with the requirements of the eligibility criterion 11 in the section 3.3 of the monitoring report, the details of the Project ownership of PI2-WB is not provided in the section 1.7 of the VCS-PD/B04/. 3. For eligibility criterion 13, the evidence stated in the section 3.3 of the MR/02/, provides the end date of the crediting period as '9 August 2031'. The end date of the crediting as per the section 1.9 of the VCS-PD/B04/ is '19 August 2031'. PP shall resolve the inconsistency with regards to the end date of the crediting period.
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	1. An additional technology description "BECT. 2015. Stove Thermal Efficiency Test Report – Rocket Works – Zama Zama" is provided and referenced in section 3.3. The ICS distributed in PI2-WB is the same as distributed in PI1-K2C. 2. Column 3 of eligibility criterion 11 has been updated to clarify that the ownership statement of the Grouped Project is applicable to all Project Instances. The ownership of the GP and all associated PIs lies with the Coordinating/ Managing Entity (CME) of the GP is TASC SA (Pty) Ltd. Text was added to further clarify ownership details for PI2-WB, i.e.: "PI2-WB is a unique project instance in the project boundary which is demonstrated in the unique serial numbers that will be tracked as part of the data collected at the point of distribution. As per section 3.6.1 of the VCS Standard, the End User Agreement is "An enforceable and irrevocable agreement with the holder of the statutory, property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals which vests project ownership in the project proponent." 3. Consistency improved and column three of eligibility criterion 13 now states the end of the crediting period as 19 August 2031.

VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	1. PP has provided the manufacturer's technology description along with the test report to comply with the eligibility criterion 2. CL03.1 is closed. 2. PP has clarified the ownership details of the project instance 2 (PI2-WB) to comply with the requirements of eligibility criterion 11. CL03.2 is closed. 3. PP has rectified the incorrect reference to the end date of the crediting period as provided in the justification of the eligibility criterion 13 of the PI2-WB. CL03.3 is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 04		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	In section 3.3.4 of the monitoring report, the details of the calculation of the f_{NRB} have been provided. Following clarifications are raised with regards the calculation of the parameter f_{NRB}: 1. Clarify, if ex-ante approach or ex-post approach is used in accordance with the §9 of the Tool 30, version 3. 2. It is not clear if the value calculated for the parameter H is in accordance with the Data / Parameter table 1. HW Source of Data and QA/QC procedures provided in the Tool 30, version 3. Furthermore, fuelwood consumption data has been used from 2013 vintage and the number of households data from 2019/20. The location of the fuelwood data is not consistent with the households fields. 3. The source of number of households data provided in the cell B11 of the Baseline values workbook of the f_{NRB} calculation is not clear. 4. The MAI values provided in column D of the $MAI_{forest,i}$ input are not consistent with the referenced document 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: V4_04_Ch4_Forest_Land Table 4.9, Subtropical dry forest – Africa		

	5. The source of the protected area forest (P_{forest}) is not clear in the cell B4 of the Waterberg protected areas workbook of the f_{NRB} sheet. 6. The source of the extent of forest (F_{forest}) is not clear in the cell B9 of the f_{NRB} workbook. 7. PP shall clarify how the geographical boundary of the project instance 2 as provided in the section 1.7 of the MR has been accounted for in the determination of f_{NRB} for the project instance 2 (PI2-WB).
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	1. Ex-ante approach is followed in accordance with §9 of the Tool 30, version 3. Text added in section 3.3.4 of the MR: "The ex-ante approach was followed in accordance with section 3.9 of TOOL30." 2. Peer-reviewed literature, not national studies or government data, was used to determine HW. The QA/QC procedures of parameter HW in TOOL30 states: <i>"If national studies or government data are used, cross-check the values with global data (e.g. Global Forest Resources Assessment by the FAO, other UN data) and provide justification for any difference"</i>. Determination of parameter HW therefore complies with the required data source and QA/QC procedures set out in TOOL30. Fuelwood consumption data (vintage 2013) used in the desktop baseline study were deemed as outdated, and therefore a field baseline survey was conducted in 2021. The f_{NRB} calculation sheet was updated to use the Field Baseline Report (2021) value for fuelwood consumption in the Waterberg instance (Baseline Values-cell B20) to calculate H (Waterberg f_{NRB} model-Cell B6). Data for the Capricorn District was included (Baseline values-cell B12; Capricorn Protected Areas). The references for household data were updated in Column F. File provided: "2022-03-15 Values for baseline and f_{NRB} calculation v2_Promethium_Field update". 3. Reference updated to reflect 2016 census data 4. The references in column E for MAIforest were updated to reflect the subtropical mountain systems in Africa. The reference document "2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories V4_04_Ch4_Forest_Land" is submitted with this report.

	5. The source referenced is an interactive online portal. Screenshot evidence of the steps are submitted with this report, titled: "2022-03-15 PI2 GFW Screenshots" 6. The source referenced is an interactive online portal. Screenshot evidence of the steps are submitted with this report, titled: "2022-03-15 PI2 GFW Screenshots" 7. The PI2-WB project instance boundary includes two district municipalities in the Limpopo Province. Household data, F_{forest} and P_{forest} data was added to the fNRB calculation sheet in "Baseline values"-B12; "Waterberg fNRB model"-B9 and B11 to include both district municipalities. The sheet "Capricorn protected areas" was included in the fNRB excel workbook and in the relevant equations.
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	1. PP has clarified that ex-ante approach has been used for the parameter f_{NRB} in accordance with the §9 of the Tool 30, version 3. CL04.1 is closed. 2. PP has clarified that peer reviewed literature has been used to determine the value for the parameter HW. The values for households are sourced from the census data from 2016 (most recent census data available). CL04.2 is closed. 3. PP has updated the census data from 2016 (most recent census data available). CL04.3 is closed. 4. PP has clarified the references in column E for MAIforest to reflect the subtropical mountain systems in Africa. The data is taken from 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories in accordance with the table Data / Parameter table 5 of the Tool 30, version 3. PP shall also clarify the basis of the ecological category selected for the PI as sub-tropical mountain systems. CL04.4 remains open. 5. PP has clarified that source has been referenced from interactive portal provided with Global Forest Watch. PP shall clarify how the data used is in accordance with the options provided in Source of Data for Data / Parameter table 7 of the Tool 30, version 03. Furthermore, it is not clear if the forest area lost from 2010 to 2020 has been accounted in the forest cover for Capricorn district. CL04.5 remains open. 6. PP has clarified that the source has been referenced from interactive portal provided with Global Forest Watch. Screenshots have been provided for the reference. CL04.6 is closed.

	7. PP has clarified that the project instance area includes the districts of Waterberg and Capricorn in the Limpopo province of South Africa. The population data has been used from the applicable districts of the project instance boundary. CL04.7 is closed.
Corrective Action or clarification #2 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	4. The ecological category for the PI is based on the FAO Global Ecological Zoning Framework for 2010, which is described and referenced in Appendix 1 (including Figure 2) of the document: “Desktop Study: Biomass Baseline for cookstove project in the Kruger to Canyon and Waterberg Biospheres”. 5. One of the options provided for in Tool 30 includes data sourced from ‘official statistics’. The data sets from Global Forest Watch are official statistics, as the Global Forest Watch is an international organization, committed to publishing forest related data sets for the purpose of public good. Global Forest Watch is an open-source web application, which is an initiative of the World Resources Institute. Partners include USAID, the University of Maryland, Google, and many other academic, non-profit, public and private organizations. In addition, the Global Forest Watch is also endorsed by the UNEP, where it is listed as a resource in the online UNEP Knowledge Repository (https://www.unep.org/resources/toolkits-manuals-and-guides/global-forest-watch). Forest area change has been included for Capricorn in the updated excel workbook provided, titled: “2022-03-15 Values for baseline and fNRB calculation v3_Promethium_Field update”
VVB Assessment #2 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	1. Closed. 2. Closed. 3. Closed. 4. PP has clarified that the ecological category for the Project Instance is based on the Appendix 1 of the ‘Desktop Study: Biomass Baseline for cookstove project in the Kruger to Canyon and Waterberg Biospheres’. The figure has been sourced from FAO Global Ecological Zoning framework (http://foris.fao.org/static/data/fra2010/ecozones2010.jpg). Based on the diagram, the ecological category identified for the project instance is subtropical mountain system. CL04.4 is closed. 5. PP has clarified that the global forest watch data has been treated as official statistics. However, it is noticed that the difference in data provided on Global Forest Watch dashboard and FAO data is significant (e.g.

	Forest cover area from GFW is https://gfw.global/35V00xm, which is not comparable against the FAO country report - https://www.fao.org/3/cb0074en/cb0074en.pdf. CL04.5 remains open. 6. Closed. 7. Closed.
Corrective Action or clarification #3 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	5. The FAO data is reported only at a national average level, whereas the Global Forest Watch data provides more detailed information, enabling analyses at subnational level. Therefore, the Global Forest Watch data sets provide data at a more granular level than the FAO data, which likely accounts for the discrepancy between the data on the Global Forest Watch dashboard and FAO data contained in the country report. The data sets from GFW are compiled from official statistics from highly regarded sources including Hansen, UMD, USGS and NASA. Accordingly, the use of Global Forest Watch data sets has been validated in at least two VCS project activities. These include the first project activity instance included under this VCS grouped project, validated by TUV Nord, as well as the registered VCS grouped project Recipe for Change Grouped Project (#2384), validated by Carbon Check.
VVB Assessment #3 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	1. Closed. 2. Closed. 3. Closed. 4. Closed. 5. PP has clarified that the data from Global Forest Watch provides data on subnational level and thus has been used as official statistics for the calculation of the f_{NRB}. PP has also justified how the data is sourced from official statistics and the data has also been used for the other VCS projects from South Africa for calculation of the f_{NRB}. CL04.5 is closed. 6. Closed. 7. Closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 05
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Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	1. The calculation for sample size is not clear in the Sample Calculator workbook of the ER sheet as all the values are not referenced and instead hardcoded. 2. It is not clear how the values in K2C Stove days and WB Stove days are being calculated. The values in column A are not linked to any reference in the ER sheet. 3. The sample size calculated in the Sample Calculator workbook of the ER sheet is 96, however the applied sample size is 174. PP shall clarify the reason for the same and also provide the value of the applied response rate. In VER1_Survey workbook of the ER sheet, the total number of households interviewed is 176. 4. Sample size calculation and precision level calculation have not been provided for the monitored parameter μ_y in the ER sheet and section 4.3 of the MR.		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	1. Sample Size Calculator Tool, as used from CDM website provided: "CDM Survey Sample Calculator v03.1_2505 MRV1.xlsx" 2. The distribution dates in Column A have been linked to the distribution records, i.e Column A in "Devices Distributed_K2C_01-Aug-2021_08-Feb-2022_v2" and "Devices Distributed_ Waterberg_01-Aug-2021_08-Feb-2022_v2", respectively. The dates have been updated to more accurately reflect when the stoves became operational. In these distribution sheets, the EffectiveOperationalDate was determined by taking the SurveyEnd date in Column F where available, otherwise the SubmissionDate in Column C was taken. The stove days are incorporated in the ER sheet VER1_ERs in Column L. Stoves distributed, and PI summary ERs in section 5.4 was updated to be consistent with the ER excel workbook. ER totals are updated throughout the MR for consistency. 3. The Sample Calculator sheet was updated to 176 sample households. The additional households were surveyed for prudent oversampling purposes. 4. The VMR0006 methodology states in section 9.2 in the table for parameter μ_y that "<i>Minimum sample size of each type i and batch j should be in line with the guidelines provide in section 8.4 option (b) above.</i>" The sample size for μ_y is in accordance with section 8.4 option (b) in that the minimum sample size is 100. Section 8.4 option (b) further states that: "<i>This simplified approach may also be used for determining minimum</i>		

	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". Text was added to parameter μ_y in section 4.2 and to Section 4.3.1 d. to reflect this statement.
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	1. PP has provided the sample size calculator sheets to the verification team. PP shall provide the justification of the expected mean and expected standard deviation values used for the mean type parameter and expected proportion values used for proportion type parameter. Also, the relative precision determined for mean type parameter is 11.5%. PP shall justify how this meets the requirements of the §18 of the sampling standard version 09. CL05.1 remains open. 2. PP has linked the distribution dates in the K2C Stove Days and WB Stove Days workbook of the ER sheet to the Devices Distribution Records for each project instance. CL05.2 is closed. 3. PP has rectified the sampled household number to 176 and clarified that oversampling was applied by the PP. CL05.3 is closed. 4. PP has clarified the basis of the sample size used for the parameter μ_y in accordance with the methodology VMR0006, version 1.1. CL05.4 is closed.
Corrective Action or clarification #2 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	1. An expected proportion of 0.8 was used for the survey determining parameter $N_{y,i,j}$. The expected proportion was based on the PP's previous experience with similar ICS projects in Africa, as well as on the internal monitoring and feedback from the Implementation Partners. Only the sheet "SRS-Proportion" was used. The proportion-type parameter meets the required precision at 7.0%. The mean-based calculation sheet was not used.
VVB Assessment #2 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	1. PP has clarified that the expected proportion was based on the PP's previous experience with similar ICS projects in Africa. PP shall provide references of such projects. PP has also clarified that mean type calculation is not applicable and sample size for mean type parameter μ_y is done based on the section 8.4 of the methodology, VMR0006, version 1.1. CL05.1 remains open. 2. Closed. 3. Closed. 4. Closed.

Corrective Action or clarification #3 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	The document “2021-12-21 KCOL CPA1 MRIII_v6 clean” is provided, which states on p21, that the actual proportion determined in a previous monitoring period was 81.2%.
VVB Assessment #3 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	1. PP has provided the reference of other projects by the same PP in the similar geographical region for the value of expected proportion in the grouped project activity. The values meet the requirements of the §5 of the Appendix 1 of the sampling guidelines, version 4. CL05.1 is closed. 2. Closed. 3. Closed. 4. Closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 06		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	The value of the ex-ante parameter B _{old} for project instance PI2-WB is determined based on Field Baseline Survey. Field Baseline Report has been provided to the verification team to confirm the values. However, the calculation sheet and the survey questionnaire records have not been provided to the verification team.		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	Files provided: <i>Baseline KPT_Waterberg_v1.xlsx</i> <i>Meth_guid48Calculator_Baseline PI2.xlsx</i>		
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	CME has provided the calculation sheet and the survey questionnaire records for the Field Baseline Survey and responses recorded have been compared with the calculation of the ex-ante parameter B _{old} for project instance PI2-WB. CL06 is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CL 07		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	The value of the monitored parameter $B_{y=1,new,i,j,survey}$ is not provided in the section 4.2 of the MR. PP shall also clarify how the condition for measurement method provided in the registered VCS-PD and the methodology VMR0006, version 1.1 is met: <i>“Sample surveys to estimate this parameter, that are solely based on questionnaires or interviews (i.e. that do not implement measurement campaigns) may only be used if the following conditions are satisfied. (i) Baseline cookstoves have been completely decommissioned and only improved cookstoves are exclusively used in the project households; (ii) If multiple devices are used in the project, it is possible from the results of the survey questions to clearly differentiate the quantity of firewood being used by each device. In other words, if more than one device, or another device that consumes firewood, are in use in project households, then the sample survey needs to distinguish the quantity of firewood used by the project device and the other devices that use firewood.”</i>		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	In section 8.4, the VMR0006 methodology provides the option to estimate $B_{y,savings,i,j}$ with either Equation 3 or 4. Equation 3 was selected and therefore the value for $B_{y=1,new,i,j,survey}$ is not applicable and not provided. Text was added to the MR in the table for $B_{y=1,new,i,j,survey}$ to clarify, stating: <i>“The approach to use Equation 3 was selected and therefore $B_{y=1,new,i,j,survey}$ is not applicable.”</i>		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has clarified that based on the section 8.4 of the methodology VMR0006, version 1.1, the parameter $B_{y,savings,i,j}$ has been calculated based on equation 3 approach and thus does not have to be determined. PP shall also clarify the approach in the section 4.2 of the MR. CL07 remains open.		
Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Added text to parameter $B_{y=1,new,i,j,survey}$, under comments, stating: Equation 3: $B_{y,savings,i,j} = B_{old} \times [1 - (\eta_{old}/\eta_{new,i,j})]$, where η_{old} is the efficiency of the baseline cookstove and $\eta_{new,i,j}$ is determined through Equation 5 in the methodology.		

	The approach is also outlined in the VMR0006 methodology and in the PDD
VVB Assessment #2 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	PP has provided a statement in the section 4.2 of the MR clarifying the approach used. CL07 is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 01		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	In accordance with the §3.4.3 of the VCS Standard, version 4.2, following details do not meet the requirements from the instruction text: - On cover page of the MR, Report ID of the MR has not been provided. - A blank page has been provided on page 46/46 of the MR.		
Corrective Action or clarification #1 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	- The MR was updated to provide the Report ID: "Fuel Efficient Cooking in South Africa: 1st Monitoring Report" - Blank page provided for Appendix has been removed.		
VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	- The report ID has been provided on the cover page of the MR. CAR01.1 is closed. - The blank page provided on page 46/46 of the MR has been deleted. CAR01.2 is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 02		
Classification	☒ CAR	☐ CL	☐ FAR

Description of finding (VVB)	The total of the emission reductions and baseline emissions is not equal to the sum of each of the vintages (viz. 2021 and 2022) as provided in the section 5.4 of the monitoring report.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	ER Calculations in ER SA Verra_v5_VER1_24Mar2022_v2 have been <i>ROUND DOWN</i> and updated in section 5.4 of the MR.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has revised the values of the emission reductions and baselines emissions in the section 5.4 of the MR to be consistent with the ER sheet. However, PP has not provided any values in the columns for project emissions and leakage emissions. PP shall provide the correct values in those columns.
Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Project and leakage emission values filled in the columns in section 5.4.
VVB Assessment #2 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has provided the values for project emissions and leakage emissions in the section 5.4 of the MR. CAR02 is closed.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 03		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	In section 4.1 of the MR, the values of the parameters are provided only for project instance PI2-WB. The values for the project instance PI1-K2C are not provided.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Parameters available at validation for PI1-K2C were added in brackets to B_{old} and $f_{nrb,b,y}$ respectively.		

VVB Assessment #1 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	PP shall provide different values for both the project instances clearly in the row for value applied to avoid confusion.
Corrective Action or clarification #2 <i>(PP shall write a detailed and clear corrective action or further information for clarification as per finding)</i>	Clarity improved for the values applied.
VVB Assessment #2 <i>The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.</i>	PP has clarified the values provided for both the project instances in the section 4.1 of the MR for the applicable ex-ante parameters. CAR03 is closed.
Conclusion <i>Tick the appropriate checkbox</i>	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

1.10.1 Forward Action Requests

No forward action requests have been raised during the verification.

1.11 Eligibility for Validation Activities

Validation/Verification body (VVB), Carbon Check (India) Private Ltd. holds accreditation for validation for the relevant sectoral scope 3 and is eligible for validation/verification for the project activity.

The name and reference numbers of five registered projects the validation/verification body has validated under the VCS Program are provided below:

S. No.	Project Title	VCS ID	Activity Type
1.	The Capture and Utilisation of Methane at the GFI Mining South Africa owned Beatrix Mine in South Africa	992	Validation/ Verification
2.	Fuel Efficient Stoves in Zambia CPA 1	1251	Validation/ Verification
3.	Fuel Efficient Stoves in Zambia CPA 2	1252	Validation/ Verification

4.	Fuel Efficient Stoves in Zambia CPA 3	1253	Validation/ Verification
5.	Lighting up Africa	1324	Validation

VALIDATION FINDINGS

1.12 Participation under Other GHG Programs

The project is already registered with VCS as a grouped project activity (project ID is 2505). The grouped project activity is not registered under any other GHG program. The grouped project activity is eligible to participate under the VCS Program.

1.13 Methodology Deviations

No methodology deviations have been applied to the grouped project activity during the reported monitoring period.

1.14 Project Description Deviations

A project description deviation has been applied by the project proponent in the monitoring report. Project proponent has added other entities to the project activity. These entities were not listed in the Project Description. The details of the other entities are provided in the section 3.3.2 of the Monitoring Report/02/. In accordance with the §3.19.2 of the VCS Standard, version 4.2/B01/, the change does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario. The description of when the changes occurred and the reasons for the changes have also been provided in the section 3.3.2 of the Monitoring Report/02/.

1.15 Grouped Project

The project activity 'Fuel Efficient Cooking in South Africa' is a grouped project activity. The project was registered with one project instance (Project Instance 1 – Kruger 2 Canyons (PI1-K2C)) and the second project instance (Project Instance 2 – Waterberg (PI2-WB)) is being added to the grouped project activity.

All the applicable new project activity instances (only one applicable) were validated, and no sampling was required in this regard. To assess the compliance of the project instance with the grouped project activity, following steps were undertaken:

1. Desk Review of the MR/01/, specifically section 2.3 of the MR/01/ and compliance with the registered PD.
2. Remote audit to assess the implementation/ operation status and compliance to the eligibility criterion by the project instance as detailed in the section 2.3 of the MR.
3. Preparation of the draft verification report with assessment of the new project instance in accordance with the §3.5.16 of the VCS Standard version 4.2/B01/.

The compliance to the eligibility criteria of the grouped project activity is demonstrated below:

Eligibility criteria of the grouped project activity

The eligibility criteria has been provided clearly in section 2.3 of the MR/02/ and then justification provided for each of the project instances. The new project instance in South Africa meets the requirements of eligibility criteria and is thus eligible to be included in the grouped project activity.

Sl. No.	Eligibility criteria description in the PD	Means of proof (Information/document) required as listed in the PD	Assessment by the validation team
1	Project Instances (PIs) must meet the applicability conditions set out in the applied methodology. Each new PI must demonstrate compliance with the applicability conditions set out in the employed methodology: VMR0006.	PI2-WB is compliant with the applicability conditions set out in the applied VMR0006 methodology as demonstrated in Section 3.3.1 in this monitoring report. Please see details below.	PP has demonstrated the compliance with the applicability conditions of the methodology VMR0006, version 1.1/B02/ in the section 3.3.1 of the monitoring report/02/. Based on the review of the monitoring report/02/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
2	Use the technologies or measures specified in the project description. Only ICS that conform with the GP description are to be distributed in the project. The ICS will be chosen to deliver a level of service at least equivalent to the baseline appliance.	The manufacturer's technology description. The Rocket Works Zama Zama rocket stove, to be distributed in PI2-WB, delivers a level of service at least equivalent to the baseline appliance as evidenced in the technology description.	PP has provided the manufacturer's technology description/06-9/ to confirm that the that the ICS distributed delivers a level of service at least equivalent to the baseline appliance. Based on the review of the technology description/06-9/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
3	Apply the technologies or measures in the same manner as specified in the project description.	a) The manufacturer's technology description describes the applicability of the ICS technology to	PP has provided the manufacturer's specifications/06-9/ and the monitoring and sales database/05/ has been

	The ICS distributed in the PIs will adhere to the GP description and replace biomass burned in the baseline scenario.	be distributed in PI2-WB. b) End users will be asked to state their source of energy and baseline appliance at the point of distribution and during the project monitoring. c) This information will be stored in the monitoring and data collection database.	checked to confirm that the applied technologies and measures in the same manner as specified in the PD/B04/. Based on the review of the documents stated above, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
4	Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area. All new PIs will be implemented only in regions within the geographic borders of South Africa subject to the same baseline scenario determined in Section 3.4 of the latest version of the Project Description.	a) GPS/location data captured from each end user, and stored in the monitoring and data collection database will demonstrate the location of the PI within South Africa. b) PI2-WB is subject to the same baseline scenario described in Section 3.4 of the latest version of the Project Description as identified and demonstrated by a baseline survey, outlined in Section 3.4.4 below.	The boundary for the grouped project activity is provided as the geographical boundary of the host country, South Africa. The project instance is located in the Limpopo province of South Africa. The desktop-based baseline survey/06-1/ has been provided for the project instance PI2-WB to confirm that the baseline scenario and survey has been conducted for the identified geographical boundary of the project instance. Based on the review of the section 3.3.4 of the MR/02/ and the baseline survey/06-1/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
5	Have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area. All new PIs will use the activity method for demonstration of additionality and of: Step 1: Regulatory Surplus There is no government mandated programme or policy in host country of this project ensuring the distribution of new	There is no government mandated programme or policy in South Africa ensuring the distribution of new project activity instances or fuel efficient cookstoves. 1. PI2-WB complies with the positive list in the methodology and satisfies criterion 1 as it meets all the applicability conditions of the methodology. 2. The End User	PP has confirmed/02/ that there are no South African government programmes or policy for cookstoves for dissemination of ICS. The end user agreement confirms that project instance installs or distributes stoves at zero cost to the end-user and has no other source of revenue other than the

	project activity instances. Step 2: Positive List The inclusion of new project activity instances will comply with the positive list as it satisfies criterion 1 where it meets all the applicability conditions of the methodology. 1. Where the project activity installs or distributes stoves at zero cost to the end-user and has no other source of revenue other than the sale of GHG credits, the project activity shall be deemed additional. 2. Project activities that are implemented as part of government schemes or are supported by multilateral funds cannot be considered additional even if the stoves are distributed free of cost or at a highly subsidized rate and hence are not eligible to use this methodology. PIs under the GP will not result in the diversion of official development assistance.	Agreement will confirm that the PI “installs or distributes stoves at zero cost to the end-user and has no other source of revenue other than the sale of GHG credits” The PIs are not implemented as part of a government scheme nor are they supported by multilateral funds. This is evidenced through Agreements with investors (confidential parts of the document may be redacted). The CME confirms that PI2-WB will not result in the diversion of official development assistance.	sale of GHG credits. CME has also confirmed that the project instance will not result in the diversion of official development assistance. Based on the review of the MR/02/ and the end user agreement/06/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
6	Where a capacity limit applies to a project activity included in the project, no project instance shall exceed such limit. Further, no single cluster of project activity instances shall exceed the capacity limit, determined as follows: - Each project activity instance that exceeds one percent of the capacity limit shall be identified. - Such instances shall be divided into clusters, whereby each cluster is comprised of any system of instances such that each instance is within one kilometer of at least one other instance in the cluster. Instances that are not within one kilometer of any other instance shall not be assigned to clusters. - None of the clusters shall exceed the capacity limit and no further project activity instances shall be added to the project that	A capacity limit does not apply under the VMR0006 methodology.	There are no capacity limits applicable under the methodology VMR0006, version 1.1/B02/. Based on the review of the MR/02/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.

	would cause any of the clusters to exceed the capacity limit.		
	The VMR0006 methodology does not contain a capacity limit.		
7	Occur within one of the designated geographic areas specified in the project description. a) New project activity instances will be located within the geographic boundaries of South Africa and defined in the instance description document. b) GPS/location data captured from each end user will demonstrate the location of the project and of each PI.	a) The geographic boundary of PI2-WB is demonstrated to be within South Africa (Figure 1). and described in Section 3.3.3 below. b) The GPS/location data captured from each end user demonstrating the location of the PI will be provided at the time of verification. The GPS/location information will be stored in the monitoring and data collection database.	PP has provided the location of the project instance PI2-WB. The project instance is located within the geographic boundaries of South Africa as provided in the section 3.3.3 of the MR/02/. The location data/06-5/ and GPS has also been confirmed through the review of monitoring and sales database for PI2-WB/05/. Based on the review of the MR/02/, location map/06-5/ and monitoring and sales database/05/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
8	Comply with at least one complete set of eligibility criteria for the inclusion of new project activity instances. Partial compliance with multiple sets of eligibility criteria is insufficient. Compliance of new PIs will be evaluated exclusively against the eligibility criteria listed in this table.	PI2-WB complies with the full set of eligibility criteria for the inclusion of new project activity instances as described in this table and Table 2 of the PDD.	PP has confirmed that the project instance PI2-WB complies with the full set of eligibility criteria for the inclusion of new project activity instances. Based on the review of the MR/02/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
9	Be included in the monitoring report with sufficient technical, financial, geographic, and other relevant information to demonstrate compliance with the applicable set of eligibility criteria and enable sampling by the validation/verification body. New PIs will be described in the monitoring report with sufficient technical, financial, geographic,	The evidences relevant to PI2-WB for the local stakeholder engagements, baseline surveys and applicable provisions is submitted alongside this Monitoring Report, and summarized below in Section 3.3.4.	PP has provided the appropriate evidence for the local stakeholder engagements, baseline surveys and applicable provisions to confirm that monitoring report is provided with sufficient technical, financial, geographic, and other relevant information to demonstrate compliance with the applicable set of

	and other relevant information to demonstrate compliance with the applicable set of eligibility criteria and enable sampling by the validation/verification body. Monitoring data of PIs will be stored in the monitoring database, which will also allow for sampling by the validation/verification body. Evidence of relevant information such as local stakeholder engagements, baseline surveys and applicable provisions will be included when submitting for PI validation at verification.	Monitoring data for PI2-WB will be provided to the VVB at verification.	eligibility criteria and enable sampling by the validation/verification body. Based on the review of the MR/02/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
10	Be validated at the time of verification against the applicable set of eligibility criteria. New PIs will be submitted for validation against the applicable set of eligibility criteria at the time of verification.	PI2-WB conforms to the eligibility criteria set out in this table, and will be validated at the time of verification.	PP has submitted the project instance PI2-WB with the monitoring report along with the applicable set of eligibility criteria. Based on the review of the MR/02/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
11	Have evidence of project ownership, in respect of each project activity instance, held by the project proponent from the respective start date of each project activity instance (i.e., the date upon which the project activity instance began reducing or removing GHG emissions). New PIs will demonstrate ownership by the project proponent, from the start date of the PI. Project ownership, as described in Section 1.7 of the latest version of the PDD, is applicable to all PIs included in this GP.	Project ownership of the Grouped Project, which includes all PIs, is demonstrated in Section 1.7 of the latest version of the PDD. This is confirmed as being with the Coordinating/ Managing Entity (CME) of the GP, which is TASC SA (Pty) Ltd. In addition, for PI2-WB, Similar to PI1-K2C, the End User Agreement contains the unique serial number that is embossed onto each ICS and will be signed by the end user at the point of distribution. The End User Agreement includes the statement: "I understand that I have received the stove free of charge and that, in order to cover the costs of the stove, TASC SA	PP has provided the details of the project ownership for the project instance, PI2-WB. Furthermore, the end user agreements shall ensure that ownership of the credits is transferred to the PP. Based on the review of the MR/02/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.

		(Pty) Ltd will claim the CO2 emissions reductions from the stove and sell these as carbon credits” PI2-WB is a unique project instance in the project boundary which is demonstrated in the unique serial numbers that will be tracked as part of the data collected at the point of distribution. As per section 3.6.1 of the VCS Standard, the End User Agreement is “An enforceable and irrevocable agreement with the holder of the statutory, property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals which vests project ownership in the project proponent.”	
12	Have a start date that is the same as or later than the grouped project start date. New PIs will have a start date that is the same as or later than the GP start date. Distribution of the efficient cookstoves in the respective PIs will begin at the start date of the GP, or later. Distribution data including distribution dates will be collected and stored on the distribution database. The sale of the first device marks the start date.	The start date of PI2-WB, evidenced as the sale of the first device in the database will be later than the start date of the GP as per section 1.8 of the latest version of the PDD. The start date of PI2-WB is 03 September 2021 and shown in Section 3.3.5 below.	The start date of the grouped project activity is 20/08/2021. The start date of the project instance PI2-WB is 03/09/2021 as provided in the MR/02/. Thus, it is confirmed that the start date is later than the grouped project start date. Based on the review of the MR/02/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
13	Be eligible for crediting from the start date of the instance through	PI2-WB is eligible for crediting from the start	The project instance PI2-WB is eligible for crediting

to the end of the project crediting period (only).	date of the instance until the end of the project crediting period on 19 August 2031.	from the start date of the instance to the end date of the grouped project activity crediting period.
New PIs will be eligible for crediting from the start date of the instance through to the end of the project crediting period (only).		Based on the review of the MR/02/, it is confirmed that project instance complies with the eligibility criterion and the condition stated.
New PIs will be eligible for crediting from the start date of the instance through to the end date of the project crediting period on 19 August 2031.		

Overall, verification team confirms that the inclusion of the new project activity instance PI2-WB is valid.

VERIFICATION FINDINGS

1.16 Project Implementation Status

The implemented grouped project activity involves distribution of fuel efficient improved cookstoves (ICS) to local communities in South Africa, who rely on baseline open-fire wood-fuelled cooking. The ICS disseminated under this grouped project activity is based on rocket stove design principles, which reduces GHG emissions from biomass burning through improved combustion efficiency of wood fuel and decreased wood fuel consumption. During the monitoring period, a total of 114,716 Rocket Works Zama Zama rocket stoves were distributed in the two applicable project instances (PI1-K2C and PI2-WB) of the grouped project activity in South Africa.

In the absence of project activity, the uses of low efficiency three stone stoves would be continued and resulted into higher biomass consumption. It is assumed that in the absence of the project activity, the baseline scenario would be the use of non-renewable biomass for meeting similar thermal energy needs. The monitoring period 20/08/2021 to 09/02/2022 covered all these stoves.

During the remote audit, CCIPL was able to verify that the project has been implemented as planned and as mentioned in the registered VCS-PD by visiting a sample of 11 households selected at random from the records available at the offices of the PP and the survey samples.

CCIPL verification team performed samples among households included in the monitoring system. The samples were chosen from the list of households where the usage surveys were carried for the monitoring parameters $N_{y,i,j}$ and μ_y .

To verify the result of the calculation of confidence/precision, CCIPL has followed the Guideline: Sampling and surveys for CDM project activities and programmes of activities, version 4/B05-2/ and Standard: Sampling and surveys for CDM project activities and programmes of activities, version 9/B05-1/.

The project is registered under VCS with VCS ID 2505 in South Africa. The project crediting period under VCS is valid from 20/08/2021 to 19/08/2031. Project participant has provided confirmation during the remote audit assessment that the carbon credits claimed under VCS will not be double counted under any other program.

Overall, the project activity was implemented as described in the registered/included VCS-PD/B04/. Verification team confirmed that the grouped project activity and project instance implementation is in accordance with the project description contained in the registered/included VCS-PD/B04/. No material discrepancies were identified between project implementation and the project description.

Based on the above assessment, verification team concluded that all physical features of the project activity in the registered VCS-PD/B04/ are in place and that the project participant has operated the project activity as per the registered VCS-PD/B04/.

The grouped project activity has been implemented that result in the sustainable development contributions described in the monitoring report/02/.

Overall, the project has been implemented in accordance with the registered VCS-PD/B04/.

1.17 Safeguards

1.17.1 No Net Harm

The grouped project activity involves distribution of improved cookstoves. No potential negative environmental or socio-economic impacts have been identified for the grouped project activity. This was also confirmed through the review of the VCS PD/B04/, MR/02/ and confirmed during the remote audit.

1.17.2 Local Stakeholder Consultation

Local stakeholder consultations were conducted prior to the implementation of the Project Instances following the implementation plan for engaging with local stakeholders outlined in the latest Project Description. PP has also provided for a mechanism for ongoing communication with the local stakeholders of the project activity. The details for the project proponent and the respective implementation partners have been provided for the continuous grievance mechanism. All the comments made by the local stakeholders during the consultation process are provided in the section 2.2 of the monitoring report.

1.18 AFOLU-Specific Safeguards

For non-AFOLU projects, this section is not required.

1.19 Accuracy of GHG Emission Reduction and Removal Calculations

The monitoring has been carried out in accordance with the provision of monitoring plan; the verification team reviewed if:

- The monitoring of reductions in GHG emissions resulting from the VCS project activity were implemented in accordance with the monitoring plan contained in the registered VCS-PD.
- The monitoring plan and the applied methodologies had been properly implemented and followed by the project participants.

- All parameters stated in the monitoring plan, the applied methodologies and relevant standards and requirements had been sufficiently monitored and updated.
- The responsibilities and authorities for monitoring and reporting were in accordance with the responsibilities and authorities stated in the monitoring plan.

The monitoring system and all applied procedures are in compliance with the monitoring plan contained in the registered VCS-PD/B04/ and the applied methodology VMR0006 version 1.1, based on the information included in the final monitoring report, there are several procedures for data collecting depending on the methodology applicable for each step of the project. Organizational Structure has been provided in the MR along with the roles and responsibilities.

The parameters and sampling measures taken are detailed below:

Parameter	Description of Parameter	Sampling approach (outcome in brackets)
$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y	Visual inspection of the premises to see if the project stove is operational and in use. Interview with end user to verify that project stove is still in use (Yes/No)
$B_{y=1,new,i,j,survey}$	Quantity of woody biomass used by project devices in tonnes per device of type i .	This parameter is not monitored during the monitoring period as PP has applied equation 3 from the methodology VMR0006, version 1.1/B02/.
μ_y	Adjustment to account for any continued use of pre-project devices during the year y	Interview with end user and visual inspection to determine if a pre-project (replaced) stove is still being used in addition to project stove (Yes/No)

PP conducted sampling surveys to gather information needed for the monitoring of $N_{y,i,j}$ and μ_y parameters.

Sampling captured information on monitoring variables with required confidence/precision (90/10 for individual PIs on an annual basis, or 95/10 confidence/precision basis for groups of PIs or sampling on a biennial basis). PP has applied 95/10 confidence/precision for sampling as a group of PIs is being sampled together. A simple random sampling was used.

Based on a population of 114,716 households, a sample size of 89 was determined based on expected proportion of 0.812, a sample size of 89 has been determined for the monitoring parameter $N_{y,i,j}$. The applied confidence interval and precision level is 95/10 (appropriate for a group of PIs). The expected proportion is based on the most recent monitoring survey for a CDM cookstove project by the same PP (UNPoA Reference 6864). The expected proportion is thus in accordance with the §5 of the Appendix 1 of the sampling guidelines, version 4/B05-2/. The sample size for the parameter μ_y is determined based on the section 8.4 Option (b) of the VMR0006 methodology/B02/, i.e. Project target population > 1000: Minimum sample size 100. PP has applied a sample size of 176 as a means of oversampling. Based on the results obtained a relative precision of 7 % is determined for the parameter $N_{y,i,j}$ and is less than the precision level limit of 10 %. For parameter μ_y , calculation of precision level is not required in accordance with the option (b) provided in the section 8.4 of the VMR0006 methodology/B02/.

In line with §26 of the Sampling Standard, version 9/B05-1/, the verification team has applied an acceptance sampling approach for remote surveys as part of the verification. Now as the PP had applied sampling approach, the verification team has chosen acceptance sampling for the parameter $N_{y,i,j}$ and μ_y in accordance with the §28 of the sampling standard, version 09 /B05-1/. The verification was conducted remotely by the verification team assigned by CCIPL i.e., the verification team leader and the local expert.

VVB used sampling during verification for checking the PP's sample size. In accordance with the §31 and §32 of the sampling standard, version 09/B05-1/, a sample size of 11 was required based on an AQL of 0.5 % and UQL of 20 %, producer risk 10 % and consumer risk 10 %. Acceptance number (c) thus determined for the sample is 0. It was observed that out of the 11 samples, all 11 stoves were found to be operational, and the usage rate of baseline and project stoves matched with the PP's records and hence no discrepant records were observed with the published MR /02/ and the ER sheet /03/ and thus c=0. Thus, PP's set of records has been accepted in line with §33 of the sampling standard, version 09 /B05-1/. Verification team has cross verified these sample documents during the remote interviews.

Emission reduction (ER)

The methodology does not calculate baseline and project emissions separately.

The steps taken and the equations and parameters applied in the VCS-PD/B04/ to calculate the project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected methodology including applicable tool(s).

Quantification of baseline emissions:

According to section 8.4 of methodology VMR0006, version 1.1/B02/, emission reductions shall be calculated as:

$$ER_y = \sum_i \sum_j ER_{y,i,j}$$

Where;

i = Indices for the situation where more than one type of project device is introduced to replace the pre-project devices

j = Indices for the situation where there is more than one batch of project device

ER_y = Emission reductions during year y in tCO₂e

$ER_{y,i,j}$ = Emission reductions by project device of type i and batch j during year y in tCO₂e

Since the grouped project activity involves the deployment of improved cookstove, the following equation 2 is applicable as per methodology VMR0006, version 1.1/B02/:

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

$B_{y,savings,i,j}$: Quantity of woody biomass that is saved in tonnes per cookstove device of type i and batch j during year y

$f_{NRB,y}$: Fraction of woody biomass that can be established as non- renewable biomass (f_{NRB})

$NCV_{wood\ fuel}$: Net calorific value of the non-renewable woody biomass that is substituted (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)

$N_{y,l,j}$: Number of project devices of type i and batch j operating during year y

0.95 : Discount factor to account for leakage

The quantity of woody biomass saved, $B_{y,savings,i,j}$, due to implementation of improved cookstoves can be estimated by one of the following options set out in Equations 3 and 4:

$$B_{y,savings,i,j} = B_{old} \times \left(1 - \frac{\eta_{old}}{\eta_{new,i,j}}\right) \quad \text{Equation 3}$$

$$B_{y,saving,i,j} = B_{y=1,new,i,j,survey} \times \left(\frac{\eta_{new,i,j}}{\eta_{old}} - 1\right) \quad \text{Equation 4}$$

The efficiency of the project stoves can be estimated using Equation 5:

$$\eta_{new,i,y} = \eta_p \times (DF_n)^{y-1} \times 0.94 \quad \text{Equation 5}$$

η_p Efficiency of project cookstoves (fraction) at the start of project activity.

$(DF_n)^{y-1}$ Discount factor to account for efficiency loss of project cookstove per year of operation (fraction). This value may be based on manufacturer's declaration on expected loss in efficiency or through publicly available literature on relevant industry standards. Alternatively default value of 0.99 efficiency loss per year can be considered.

0.94 Adjustment factor to account for uncertainty related to project cookstove efficiency test.

Determination of the fraction of non-renewable biomass:

The fraction of woody biomass that can be established as non-renewable, is:

$$f_{NRB} = NRB / (NRB + RB)$$

Equation (1)

Where:

f_{NRB} = Fraction of non-renewable biomass in the country/region or project area (fraction or %)

NRB = Quantity of non-renewable biomass consumed in the applicable area in the relevant period (tonnes)

RB= Quantity of renewable biomass that is available on a sustainable basis in the applicable area in the relevant period (tonnes)

The quantity of non-renewable biomass consumed in the applicable area (NRB) shall be determined as the difference between the total consumption of woody biomass in the applicable area (H) and the quantity of renewable biomass that can be sustainably harvested in the applicable area (RB):

$$NRB = H - RB$$

Where:

H = Total consumption of woody biomass in the applicable area in the relevant period (tonnes)

Validation team has assessed the calculation of f_{NRB} for the project instance PI2-WB in accordance with the provisions of the Tool 30: Calculation of the fraction of non-renewable biomass, version 3.0/B06-1/ and the VCS methodology VMR0006, Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1/B02/.

PP has sourced the data for forest and protected forest area in the applicable area from the most recent data available on the Global Forest Watch application/07-3/. The regional level data has been used for the project instance and is a source of official statistics for the geographical boundary used for the project instance PI2-WB. The forest area and protected forest area is sourced from Global Forest Watch application. Waterberg and Capricorn districts have been used for the calculation of the forest area and protected area.

The baseline fuelwood consumption data is sourced from the baseline survey conducted by Promethium Carbon in the applicable geographical boundary. The results from the baseline surveys were cross-checked with the households through remote audit. VVB used sampling during validation of baseline survey for checking the PP's baseline survey results. In accordance with the §31 and §32 of the sampling standard, version 09/B05-1/, a sample size of 11 was required based on an AQL of 0.5 % and UQL of 20 %, producer risk 10 % and consumer risk 10 %. Acceptance number (c) thus determined for the sample is 0. It was observed that out of the 11 samples, the survey responses were compared with the PP's records and hence no discrepant records were observed with the baseline survey records /07-2/ and thus c=0. Thus, PP's set of records has been accepted in line with §33 of the sampling standard, version 09 /B05-1/.

The data on the number of households in the applicable geographical boundary - Waterberg and Capricorn districts has been used from Municipalities of South Africa data (municipalities.co.za)/07-4/. The data is from official census reports, thus has been accepted by the verification team.

The data on mean annual increment is sourced from 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories/07-5/ in accordance with the requirements of the Tool30, version 03/B06-1/.

The overall calculation of the parameter was also checked by the verification team. Based on the interviews with the PP, it was confirmed that the geographical area for project instance is dominated by natural reserves in the identified geographical area and thus a higher value is determined for fNRB.

The value determined for fNRB is 0.99.

The value determined for the mean of fuelwood consumption is 5.00 tonnes/ household/ year.

Quantification of project emissions:

Project emissions are not applicable to the grouped project activity as the applied methodology, VMR0006, version 1.1/B02/, provides a direct equation for the calculation of emission reductions and does not provide calculations of project emissions separately.

Quantification of leakage emissions:

In accordance with the section 8.3 of the applied methodology, VMR0006, version 1.1/B02/, a default factor of 0.95 to account for leakage has been applied.

Verification team confirms that all relevant assumptions and data are listed in the project description, including their references and sources and that all data and parameter values used in the project description are considered reasonable in the context of the project and all estimates of the baseline emissions can be replicated using the data and parameter values provided in the project description. No uncertainties associated with the calculations of emissions have been observed by the validation team.

Project Emission (PE)

Not Applicable.

Leakage (L)

Not Applicable.

According to the applied methodology, a net-to-gross adjustment factor of leakage of 0.95 is applied to calculate the emission reductions for the monitoring period.

Ex-ante parameters:

Parameter	Value	Source	Assessment
B _{old,p}	5.49 (PI1-K2C) 5.00 (PI2-WB)	Field Baseline Survey Report by Promethium Carbon/07-2/	The baseline fuelwood consumption data is sourced from the baseline survey conducted by Promethium Carbon in the applicable geographical boundary. The results

			from the baseline surveys were cross-checked with the baseline survey participants through remote audit.
$f_{NRB,b,y}$	0.89 (PI1-K2C) 0.99 (PI2-WB)	Calculated based on the CDM TOOL 30 "Calculation of the fraction of non-renewable biomass" v3.0 for PI1-K2C.	The assessment of the values for the PI2-WB is provided above. The values for PI1-K2C have been cross checked with the registered PD/B04/.
$EF_{WF,CO2}$	112 tCO ₂ e/TJ	VMR0006 methodology default/B02/: IPCC default for wood fuel	The value has been cross-checked with the methodology, VMR0006, version 1.1/B02/.
$EF_{WF,non-CO2}$	26.23 tCO ₂ e/TJ	VMR0006 methodology default/B02/: IPCC default for wood fuel	The value has been cross-checked with the methodology, VMR0006, version 1.1/B02/.
η_p	38.3 %	University of Johannesburg SeTAR Centre test report on Rocket Works' Zama Zama stove; February 2013/06-2/	The value has been cross-checked with the efficiency test report provided to the validation team/06-2/.

Monitored parameters:

Data / Parameter	Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$)
Measuring frequency	At least once every two years
Recording frequency	At least once every two years
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment	Survey Form

Value(s) of monitored parameter	93,859
Is accuracy of the monitoring equipment as stated in the PD?	NA
Calibration frequency /interval	NA
Is the calibration interval in line with the monitoring plan of the PD?	NA
Company performing the calibration	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No)	NA
Is(are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been crosschecked with other available data?	Yes, the reported data has been cross-checked with the monitoring usage survey records and the data has been found consistent. Sampling approach has been assessed above.
How were the values in the monitoring report verified	The values in the monitoring report were verified through the comparison with the values in the ER sheet/04/ and the raw data provided therein.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.

Data / Parameter	Efficiency of the device of each type i and batch j implemented as part of the project activity ($\eta_{new,i,j}$)
Measuring frequency	Annually
Recording frequency	Annually
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes

Type of monitoring equipment	ER calculation sheet
Value(s) of monitored parameter	36%
Is accuracy of the monitoring equipment as stated in the PD?	NA
Calibration frequency /interval	NA
Is the calibration interval in line with the monitoring plan of the PD?	NA
Company performing the calibration	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No)	NA
Is(are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been crosschecked with other available data?	PP has applied step v during the monitoring period (using methodology equation 5) and thus the parameter is not monitored.
How were the values in the monitoring report verified	The values in the monitoring report were verified through the comparison with the values in the ER sheet/04/ and the raw data provided therein.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.

Data / Parameter	Quantity of woody biomass used by project devices in tonnes per device of type i ($B_{y=1,new,i,j,survey}$)
Measuring frequency	Determined in the first year of project implementation
Recording frequency	Determined in the first year of project implementation
Is measuring and reporting frequency in accordance with the monitoring	Yes

plan and monitoring methodology? (Yes / No)	
Type of monitoring equipment	Monitoring survey
Value(s) of monitored parameter	NA. PP has applied equation 3 from the methodology VMR0006, version 1.1/B02/ and thus the parameter is not monitored.
Is accuracy of the monitoring equipment as stated in the PD?	NA
Calibration frequency /interval	NA
Is the calibration interval in line with the monitoring plan of the PD?	NA
Company performing the calibration	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No)	NA
Is(are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been crosschecked with other available data?	NA
How were the values in the monitoring report verified	NA
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA

Data / Parameter	Adjustment to account for any continued use of pre-project devices during the year y (μ_y)
Measuring frequency	At least one every two years
Recording frequency	At least one every two years

Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment	Monitoring survey
Value(s) of monitored parameter	0.47
Is accuracy of the monitoring equipment as stated in the PD?	NA
Calibration frequency /interval	NA
Is the calibration interval in line with the monitoring plan of the PD?	NA
Company performing the calibration	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No)	NA
Is(are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been crosschecked with other available data?	Yes, the reported data has been cross-checked with the monitoring usage survey records and the data has been found consistent. Sampling approach has been assessed above.
How were the values in the monitoring report verified	The values in the monitoring report were verified through the comparison with the values in the ER sheet/04/ and the raw data provided therein.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.

Data / Parameter	Efficiency of baseline stove (η_{old})
Measuring frequency	Fixed for each individual household at the time of project implementation

Recording frequency	Fixed for each individual household at the time of project implementation
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment	NA
Value(s) of monitored parameter	0.1
Is accuracy of the monitoring equipment as stated in the PD?	NA
Calibration frequency /interval	NA
Is the calibration interval in line with the monitoring plan of the PD?	NA
Company performing the calibration	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No)	NA
Is(are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been crosschecked with other available data?	Yes, the reported data has been cross-checked with the methodology default value of 0.1 as used by the project participant/B02/.
How were the values in the monitoring report verified	The values in the monitoring report were verified through the comparison with the values in the ER sheet/04/ and the methodology, VMRO006, version 1.1/B02/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.

Data / Parameter	Operating lifetime of project device (Life Span)
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Measuring frequency	Once at point of distribution
Recording frequency	Once at point of distribution
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment	NA
Value(s) of monitored parameter	5 years
Is accuracy of the monitoring equipment as stated in the PD?	NA
Calibration frequency /interval	NA
Is the calibration interval in line with the monitoring plan of the PD?	NA
Company performing the calibration	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No)	NA
Is(are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been crosschecked with other available data?	Yes, the reported data has been cross-checked with the manufacturer declaration on the stove lifetime/06-8/.
How were the values in the monitoring report verified	The values in the monitoring report were verified through the comparison with the values in the manufacturer declaration on the stove lifetime/06-8/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.

Data / Parameter	Net calorific value of the non-renewable woody biomass, renewable biomass, briquettes or pellets used in project devices ($NCV_{biomass}$)
Measuring frequency	Annual
Recording frequency	Annual
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Type of monitoring equipment	NA
Value(s) of monitored parameter	0.0156 TJ/tonne
Is accuracy of the monitoring equipment as stated in the PD?	NA
Calibration frequency /interval	NA
Is the calibration interval in line with the monitoring plan of the PD?	NA
Company performing the calibration	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No)	NA
Is(are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been crosschecked with other available data?	Yes, the reported data has been cross-checked with the methodology, VMR0006, version 1.1/B02/. PP has used the IPCC default value for wood fuel.
How were the values in the monitoring report verified	The values in the monitoring report were verified through the comparison with the values in the methodology, VMR0006, version 1.1/B02/.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.

PP provided the spreadsheets used for calculating the GHG emission reductions. CCIPL has reproduced all these calculations to obtain the same results, hence, they are deemed quantified correctly in accordance with the project description and applied methodology; consistent with the evidence provided and cross-checked by CCIPL. Furthermore, appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed, and assumptions and emission factor correctly applied and justified.

1.20 Quality of Evidence to Determine GHG Emission Reductions and Removals

CC IPL was able to confirm that the calculations are based on authentic data. The spreadsheets used to calculate the VCU calculations and all figures were tracked, checked and found to be consistent.

The quality of supporting evidences submitted to the VVB for verification is adequate and found to be verifiable. The transfer of carbon rights and other supporting documents related to quality and maintenance were checked by the verification team during the remote audit assessment to confirm the authenticity of the documents and to check the correctness of the calculation.

The verification team can confirm that sufficient evidence is available for the whole monitoring period and the same is verifiable and that the data collection system meets the requirements of the monitoring plan and the applied methodology according to the assessment carried out remote audit assessment and in the document review

Verification team confirms that the quality of evidence to determine the GHG reductions and removals produced was found satisfactory. The detailed information flow with the roles and responsibilities of the individuals and the monitoring system have been provided in the VCS-MR/01/.

1.21 Non-Permanence Risk Analysis

As the project activity is a non-AFOLU project activity no risk related to non-permanence has been identified for the project activity.

VERIFICATION CONCLUSION

Carbon Check (India) Private Limited has performed the verification of the grouped project activity “Fuel Efficient Cooking in South Africa” in South Africa, with regards to the relevant requirements for VCS project activities.

The conclusions can be summarised as follows:

- The project is implemented and installed as planned and described in the registered VCS PD/B04/ and the grouped project activity confirms with the verification criteria for project and their GHG emission reductions or removals set out in the VCS rules.
- The monitoring plan is in accordance with the applied approved methodology, i.e. VMR0006, version 1.1/B02/ and monitoring plan as sought out in the registered VCS-PD/B04/.
- The monitoring system is in place and functional. The project has generated verifiable GHG emission reductions.

As the result of the verification of project activities, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. Carbon Check (India) Private Ltd. herewith confirms that the project has achieved emission reductions in the below mentioned reporting period as follows. The project complies with the verification criteria for projects and their GHG emissions reductions or removals set out in VCS rules.

Verification period: From [20-August-2021] to [09-February-2022]

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

For non-AFOLU projects, use the following table:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2021	98,995	0	0	98,995
Year 2022	4,852	0	0	4,852
Total	103,847	0	0	103,847

APPENDIX 1: REFERENCES

S. No.	Document
/01/	1. VCS Monitoring report (draft) version 1.0 dated 07/02/2022
/02/	VCS Monitoring Report (final) version 4.0 dated 14/06/2022
/03/	1. ER spread sheet corresponding to /01/ 2. ER spread sheet corresponding to /02/
/04/	ER spread sheet corresponding to /02/
/05/	Project Device Distribution Database for: 1. Project Instance 1 2. Project Instance 2
/06/	Evidence for Eligibility Criteria: 1. Baseline Study 2. Stove Efficiency Test Report 3. End User Agreement Template 4. Local Stakeholder Consultation 5. Location Map 6. Project Activities in South Africa 7. Project Funding Evidence 8. Project Stove Lifetime 9. Manufacturer's technology specifications
/07/	Calculation of f_{NRB} spreadsheet: 1. f_{NRB} spreadsheet 2. Baseline survey report 3. Forest data from Global Forest Watch 4. Household size data from the website municipalities.co.za 5. Mean Annual Increment Data from 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
/08/	Sample size calculator with random generator
/B01/	1. VCS Standard, version 04.2 2. VCS Program Guide version 04.1 3. VCS Validation and Verification Manual, version 03.2 4. Registration and Issuance Process v3.8 5. VCS Program Definitions version 03.7
/B02/	VCS Methodology: VMR0006 ver. 1.1 – Methodology for Installation of High Efficiency Firewood Cookstoves
/B03/	VCS MR Template version 4.1
/B04/	Registered VCS-PD (version 4.0 dated 18/02/2022 and the corresponding Validation Report
/B05/	1. Standard for sampling and surveys for CDM PAs and PoAs, version 09 2. Guidelines for sampling and surveys for CDM project activities and programme of activities (version 04.0)
/B06/	1. CDM Tool: Calculation of the fraction of non-renewable biomass, version 3.0

APPENDIX 2: ABBREVIATION

BAU	Business As Usual
CA	Corrective Action / Clarification Action
CER	Certified Emission Reduction
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon Dioxide
CO₂e	Carbon Dioxide Equivalent
DOE	Designated Operational Entities
DVR	Draft Validation Report
EB	CDM Executive Board
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
GHG	Greenhouse gas(es)
GWh	Giga Watt Hour
IPCC	Intergovernmental Panel on Climate Change
MW	Megawatts
MWh	Mega Watt Hour
OSV	On Site Visit
PV	Solar Photovoltaic
QC/QA	Quality control/ Quality assurance
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VVB	Validation / Verification Body

APPENDIX 3: CERTIFICATES OF COMPETENCE



Carbon Check (India) Private Ltd.

Mr. Anubhav Dimri

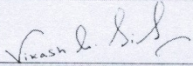
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

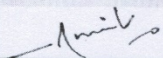
Validator	☒	Team Leader	☒	Technical reviewer	☒
Verifier	☒	Technical Expert	☒	Local Assessor ¹	☒

In the following Technical Areas:

TA 1.1	☒	TA 4.1	☐	TA 9.1	☐	TA 13.1	☒
TA 1.2	☒	TA 5.1	☐	TA 9.2	☐	TA 13.2	☐
TA 3.1	☒	TA 5.2	☐	TA 10.1	☐	TA 14.1	☐



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
CEO

Date of Approval
24/12/2021

Valid Till
23/12/2022

Revision History of the Document

01/03/2020 ²	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision
24/12/2021	Annual Revision

¹ India, South Africa

² Please refer to previous version of competency certificates for the revision history.

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Carbon Check (India) Private Ltd.

Ms. Indumathi. C

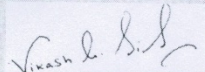
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

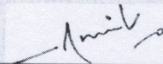
Validator	☐	Team Leader	☒	Technical reviewer	☒
Verifier	☐	Technical Expert	☒	Local Assessor ¹	☒

In the following Technical Areas:

TA 1.1	☒	TA 4.1	☐	TA 9.1	☐	TA 13.1	☒
TA 1.2	☒	TA 5.1	☐	TA 9.2	☐	TA 13.2	☒
TA 3.1	☒	TA 5.2	☐	TA 10.1	☐	TA 14.1	☐



Mr. Vikash Kumar Singh
Compliance Officer



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CEO

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