



**Verified Carbon
Standard**

VALIDATION REPORT FOR FUEL EFFICIENT COOKING IN SOUTH AFRICA

Document Prepared by:

TÜV NORD CERT GmbH

Am TÜV 1, 45307 Essen, Germany

Phone: +49 201 8250

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Prepared By	<i>TÜV NORD CERT GmbH</i>
Contact	<i>Am TÜV 1, 45307 Essen, Germany +49 201 8250 operations.carbon@tuev-nord.de</i>
Approved by	<i>K. Rami</i>
Work carried out by	<i>Prakash Kumar Mishra, K. Rami</i>

Summary:

Provide a brief summary of the following:

- **A brief description of the validation and the project**

Project: The project “Fuel Efficient Cooking in South Africa” by TASC is a voluntary Grouped Project (“GP”) with an objective of distributing fuel efficient improved cookstoves (ICS) to local communities in South Africa.

The Coordinating/Managing Entity (CME) of the GP is TASC SA (Pty) Ltd. (“TASC”) and the ICS will be distributed by Project Instance (“PI”) Implementers, contracted by TASC specifically for this purpose. PI Implementers will be selected by TASC for their ability to handle the logistics of ICS distribution (storage, transportation, management etc.), but also for their ability to engage with local communities and identify suitable ICS recipients.

Validation: TASC SA Ltd. has commissioned TÜV NORD CERT GmbH., to carry out the validation of the project with regards to the relevant requirements of VCS Standard v4.1.

- **The purpose and scope of validation**

Purpose: The purpose of the validation is to have a thorough and independent assessment of the proposed project activity against the applicable VCS requirements, in particular, the project's baseline, monitoring plan and the project's compliance with relevant VCS and host party(ies) criteria. These are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all the VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions. The VVB performed objective based, independent assessment of the validation of the project activity.

Scope: The validation scope is defined as an independent and objective review of the Project Description (PD). The PD is reviewed against the relevant criteria and guidance documents provided by VCS which included the following: VCS Program Guide (v4.0, dated 19 September 2019), VCS Standard (v4.1, dated 22 April 2021), Program Definitions (v4.1, dated 19 September 2019), and in line with the Registration & Issuance Process (v4.0, dated 19 September 2019) applicable at the time in order to confirm that the project meets the applicability conditions of the selected baseline and monitoring methodology, applied VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves v1.1 and also assess the claims and assumptions made in the PD without limitation on the information provided by the project participants.

- **The method and criteria used for validation**

The validation consists of the following four phases:

I. A desk review of the project description documents

- A review of data and information;
- Cross checks between information provided in PD and information from sources with all necessary means without limitations to the information provided by the project proponent;

II. Remote Assessment and follow-up interviews with project stakeholders

- Interviews with relevant stakeholders in host country with personnel having knowledge with the project development via telephone, email or direct on-site visits;
- Cross checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project

III. Reference to available information relating to projects or technologies similar to project under validation and review based on the approved methodology being applied for the appropriateness of formulae and accuracy of calculations.

IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

- **The number of findings raised during validation**

GP

During the course of validation, a total of 10 findings were raised and have been closed, which include 06 Corrective Action Requests (CARs); 04 Clarification Requests (CLs) and no Forward Action requests (FARs) were issued.

PI

During the course of validation, a total of 8 findings were raised and have been closed, which include 08 Corrective Action Requests (CARs); no Clarification Requests (CLs) and no Forward Action requests (FARs) were issued.

- **Any uncertainties associated with the validation**

The PD /VCS-PD/, emissions reduction calculations /XLS/ along with the supporting documents provided are considered to be in line with the VCS version 3 requirements. The validation team has detected no further uncertainties or quality restrictions.

- **Summary of the validation conclusion**

TÜV NORD CERT GmbH. hereby confirms that the project is fulfilling the criteria specified by VCS PD template Project Description, v4.0 /VCS/, VCS Standard (v4.1, dated 22 April 2021), /VCS/, applied VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves v1.1 /METH/ and hence be successfully validated under VCS. TÜV NORD CERT GmbH confirms a positive validation opinion confirming the project complies with the applicable VCS requirements, thus recommending the project for registration.

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1 INTRODUCTION

1.1 Objective

The TASC SA (Pty) Ltd. has commissioned the VVB, to carry out the validation of the project activity “Fuel Efficient Cooking in South Africa”. This report summarizes the findings of the validation of the project activity, with regards to the relevant requirements of the Verified Carbon Standard VCS version v4.1. Validation is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions. This report contains the findings and resolutions from the validation of the grouped project activity. The validation of the grouped project activity has been performed in accordance with the § 3.5 of the VCS Standard/VCS/, as the project start date is assessed as 20/08/2021 (first stove entry in the monitoring database) and a VCS Project Description Template has been completed.

The objective of a validation is to have a thorough and independent assessment of the proposed project activity against the applicable VCS requirements, in particular, the project's baseline, monitoring plan and the project's compliance with relevant VCS and host Party criteria. These are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions, VCUs.

1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the Project Description (PD), project design, the project's baseline study and monitoring plan and other relevant documents. The PD is reviewed against the relevant criteria and decisions by the VCSU, including the approved baseline and monitoring methodology. VVB has employed a risk-based approach in the validation, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

The validation is carried out on the basis of the following requirements, applicable for this project activity:

- VCS Program Guide,
- VCS Standard,
- Program Definitions,
- Registration & Issuance Process,
- VCS Methodology: VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves v1.1
- Other relevant rules, including the host country legislation

The validation consists of the following four phases:

I. A desk review of the project description documents

- A review of data and information;
- Cross checks between information provided in PD and information from sources with all necessary means without limitations to the information provided by the project proponent;

II. On-site/ Remote visit and follow-up interviews with project stakeholders

- Interviews with relevant stakeholders in host country with personnel having knowledge with the project development via telephone, email or direct on-site visits;
- Cross checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project proponent;

III. Reference to available information relating to projects or technologies similar to project under validation and review based on the approved methodology being applied for the appropriateness of formulae and accuracy of calculations.

IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

1.3 Level of Assurance

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

1.4 Summary Description of the Project

Household cooking practices in South Africa include the use of electric stoves (electricity generated through coal combustion), gas, paraffin, coal and wood. The project activity envisages, distribution of ICS to the communities within South Africa who employ open-fire wood-fueled cooking methods. The GP is a voluntary initiative and the VVB assessed and confirms that distribution of cookstoves is not mandated by South African law. “Fuel Efficient Cooking in South Africa” by TASC is a voluntary Grouped Project (“GP”) aimed at distributing fuel efficient improved cookstoves (ICS) to local communities in South Africa who rely on the open-fire wood-fueled cooking methods.

TASC SA (Pty) Ltd. (“TASC”) is the Coordinating/Managing Entity (CME) of the GP. The ICS will be distributed by Project Instance (“PI”) Implementers. The PI will be contracted by TASC and with responsibility to handle the logistics of ICS distribution (storage, transportation, management etc.), and their ability to engage with local communities and identify suitable ICS recipients. Communities and individual recipients will be identified via an ongoing series of community sensitization meetings, which will introduce the GP, the technology, and their impact.

Through this project, ICS will be distributed to communities within South Africa identified as relying on baseline open-fire wood-fueled cooking methods. Under the GP, the PI implementers will distribute ICS to communities identified in several regions within South Africa. The technologies employed in each PI will reduce GHG emissions by demonstrably reducing the usage of non-renewable biomass at the household level.

2 VALIDATION PROCESS

2.1 Method and Criteria

TASC SA Ltd. has commissioned TÜV NORD CERT GmbH., to carry out the validation of the grouped project “Fuel Efficient Cooking in South Africa”, with regards to the relevant requirements of VCS Standard /VCS/. The validation of the grouped project activity has been performed in accordance with the VCS Standard.

The validation includes a thorough and independent assessment of the proposed grouped project activity against the applicable VCS requirements, in particular, the project's baseline, monitoring plan and the project's compliance with relevant VCS and host Party criteria. The validation involves assessment of the project and to confirm that the project meets the applicability conditions of the selected baseline and monitoring methodology, VCS Methodology: VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves v1.1/METH/ and also assess the claims and assumptions made in the PD without limitation on the information provided by the project participants. The overall validation was conducted using TÜV NORD CERT GmbH internal procedures.

2.2 Document Review

The VCS project description, emission reduction calculation spread sheet and supporting documents related to the project design and baseline were reviewed as per VCS standard //VCS// requirements. The desk review included:

- A review of the data and information presented to verify completeness and consistency in accordance with applicable VCS requirements;
- A review of the project description and monitoring methodology, paying particular attention to the applicability conditions of the methodology and baseline and additionality related requirements.
- A review of the monitoring plan and the project's compliance with relevant VCS criteria.

Furthermore, the validation 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.

2.3 Interviews

A site visit to the project activity was not undertaken and instead interviews were done with the project proponent to confirm the information as provided in the project description. The information was checked based on the PD/VCS-PD/, along with the review of submitted evidence, and to confirming evidences associated with the project design, implementation, project operations, environmental impacts, stakeholders etc.

Duration of remote audit: 27/09/2021				
No.	Activity performed	Site location	Date	Team member ¹⁾
1.	Meeting with TASC SA (Pty) Ltd.: - Kick-off meeting - General set-up of the Grouped PA - Status of PI - Check of supporting documents - Check of Information Management System	TASC SA (Pty) Ltd. office	27/09/2021	Prakash Mishra
2	Assessments - Check of baseline situation - Crosscheck of supporting documents esp. - o Start date - o MoU, Contract with partners reply form, Business license - o Technical data/description of the CEPs - o Local Stakeholder documentation - o Global stakeholder comment and associated responses - o Supporting documents for input values to ER calculation - o Interview with users and distributors including PO and related personnel	TASC SA (Pty) Ltd. office	27/09/2021	Prakash Mishra

3	Meeting at TASC SA (Pty) Ltd. Office (remotely): - Check of ER calculation and input values - Summary and presentation of findings - Closing meeting	TASC SA (Pty) Ltd. Office (remotely)	27/09/2021	Prakash Mishra
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2.4 Site Inspections

A remote audit was conducted using other means of validation due to Pandemic of COVID-19 and related lockdown in the host country and the international travel restrictions. Detailed explanation on remote audit following the “COVID-19 Travel Guidance for Projects”¹ is provided as below:

No	Guidance	Compliance
1	First and foremost, Verra considers everyone’s health and safety a top priority. As it relates to scheduled site visits and other related travel, please do not put yourselves in high-risk situations.	The COVID cases were prevalent in India and thus the travel to site was not considered as practical option. Site visit was avoided as it was considered as high-risk situation.
2	Verra will be flexible in terms of validation and verification deadlines that projects may be facing. In particular, Verra encourages auditors and project developers to consider postponing scheduled site visits and other related travel where it would lead to health risks.	The VVB has avoided the physical site visit, however availed alternative means of Assessment.
3	By necessity, we will need to handle exemptions to our site visit requirements and validation/verification deadlines on a case-by-case basis. If you have questions regarding upcoming site	The VVB has availed the remote Assessment following the guidance of UNFCCC and VERRA available on https://cdm.unfccc.int/newsroom/latestnews/releases/2020/01041_index.html allowing the exemption from site visit until 31 December

¹ <https://verra.org/covid-19-travel-guidance/>

	visits or upcoming validation/verification deadlines, please reach out to us by emailing secretariat@verra.org. We are happy to work with our stakeholders to find workable pathways forward that balance the need for everyone's safety while ensuring the continued rigor of our certification programs^{/CP/}.	2021, by CDM EB and reasonable level of assurance is met (as per email instructions received from VERRA on COVID-19 travel restrictions, dated 24/03/2021) which is well justified in the report inline with VCS Standard section 4.1.2. The VCS Program does not explicitly mandate site visits as part of the validation and verification process, only that VVBs must achieve a reasonable level of assurance on all validations and verifications (per Section 4.1.2 of the VCS Standard, v4.0). 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 validation/verification report includes a discussion of how a reasonable level of assurance was achieved without an in-person site visit.
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A remote assessment/ interviews inspection was undertaken for the project activity inline with the requirements of VCS Standard and UNFCCC CDM Standard. The project description validation was performed based on the documents provided including the VCS/VERRA Grouped PD by the project proponent/^{VCS-PD/} and interview comments as assessed during remote assessment.

A complete desk review of the submitted PD (initial and final versions), ER calculation spreadsheet as well as all applicable country legal requirement and supportive evidence have been checked by the validation team. In addition, audit team has conducted a remote audit assessment interview. The VVB undertook electronic calls/meetings with CME and PI, to confirm the baseline scenario, implementation status and hence implementation / management system of the PI (through review of existing VCS PD) as well as request for supportive evidence. Based on the interview and the desk review of the supportive documents, validation team has found that the

implementation of the project activity has already started. The sample sales database has been reviewed/^{DATA/}. Based on the phone / video calls, VCS PD document review, as well as the review of VERRA procedures and guidelines, Validation team has proceeded to conduct the remote site visit rather than physically visiting the site due to COVID-19 travel restrictions. Though VERRA do not mandates the VVB to perform an onsite visit if an assurance that how VVB could validate/check the project and on ground information including baseline etc.. VERRA has also provided an email instruction regarding COVID-19 Interim measures. Moreover, VVB has further followed para 184 of CDM validation and verification standard for programmes of activities/^{VVS/}, and used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation.

- By review of Grouped VCS PD documents.
- By taking follow up actions by conducting interview with CME, PI Implementer, to gather information about knowledge of project design, current situation and implementation plan of PI via telephonic call, skype video meeting calls and e-mail communications. VVB could also interviewed sampled stakeholders, baseline technologies users together with project technology end users to assess the elements of LSC meetings, baseline scenario existing before implementation of the grouped project and 1st PI and project scenario and technology implementation.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in PI-DDs and supporting documents. Details of interviewees, topics covered and additional information presented in the below table. The justification for not conducting the on-site visit as per VVS PoA/^{VVS/} have been mentioned below:

VVS PoA Requirements	Validation team Justification
Para 29 (b) (b) Follow-up actions (e.g. on-site inspection and telephone or e-mail interviews), including: (i) Interviews with relevant stakeholders in the host country, such as personnel with knowledge of the PoA design and implementation; (ii) Cross checks between the information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted;	Validation team has done the follow-up actions by: 1. Telephonic call, Skype video meetings and E-mail interviews of CME, CPA Implementer, partner organization. 2. Cross checks between information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted.
Para 183 It is mandatory for the DOE to conduct an onsite inspection at validation for the proposed CPA if:	The validation team has not considered the site visit as mandatory due to the following reasons which are in line with the VVS PoA Requirements:

(a) Its estimated annual average of GHG emission reductions or net anthropogenic GHG removals is more than 100,000 t CO₂ eq; or (b) There is pre-project information that is relevant to the requirements for inclusion of the CPA and may not be traceable after the inclusion	1. For the Project Instance to be included, the estimated annual average of GHG emission reductions or net anthropogenic GHG removals is less than 100,000 t CO₂ eq. 2. Also there is no pre-project information that is relevant to the requirements for inclusion of the Project Instance and may not be traceable after the inclusion. 3. Lastly but not the least, the validation team had conducted a remote on-site audit via conducting requisite number of interviews to crosscheck information related to baseline, project implementation and compliance with inclusion eligibility criteria (as applicable) via calls.
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This is considered in line with paragraph 184 of the POA VVS.

2.5 Resolution of Findings

This section summarises the findings from the validation of the project activity. In this section the findings from the document review, site visit/ remote assessments and interviews are provided. Material discrepancies identified in the course of the validation 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.

GP: A total of 06 CARs and 03 CLs had been issued for the validation of the project activity and have been resolved. No FARS were issued.

PI: A total of 08 CARs and no CL and FARS were issued.

GP

Validation topic	No. of CAR	No. of CL
<i>Project Design</i>	4	2
<i>Baseline / Additionality</i>	-	-
<i>Emissions calculations</i>	-	-
<i>Data parameters Fixed and monitored</i>	-	-
<i>Monitoring plan</i>	-	1
<i>Environmental Impact</i>	1	1
<i>Local Stakeholder Comments</i>	-	-
<i>Others- Non-Permanence Risk report</i>	1	-
SUM	6	4

PI

Validation topic	No. of CAR	No. of CL
<i>Project Design</i>	4	-
<i>Baseline / Additionality</i>	1	-
<i>Emissions calculations</i>	1	-
<i>Data parameters Fixed and monitored</i>	-	-

Validation topic	No. of CAR	No. of CL
<i>Monitoring plan</i>	<i>1</i>	<i>-</i>
<i>Environmental Impact</i>	<i>-</i>	<i>-</i>
<i>Local Stakeholder Comments</i>	<i>1</i>	<i>-</i>
<i>Others- Non-Permanence Risk report</i>	<i>-</i>	<i>-</i>
SUM	8	-

2.5.1 Forward Action Requests

No Forward action request(s) has/have been raised during the course of validation.

3 VALIDATION FINDINGS

3.1 Project Details

The project activity “Fuel Efficient Cooking in South Africa” is a Grouped Project (“GP”) aimed at distributing fuel efficient improved cookstoves (ICS) to local communities in South Africa who rely on the open-fire wood-fueled cooking methods. The technology to be distributed in the reported project instance of the grouped project activity is wood fueled, rocket stove at an average thermal efficiency of 38.3% based on review of the technical specifications/^{TECH/}. The GP is a voluntary initiative and the VVB assessed and confirms that distribution of cookstoves is not mandated by South African law.

TASC SA (Pty) Ltd. (“TASC”) is the Coordinating/Managing Entity (CME) of the GP. As per provision of the VCS-PD, the ICS will be distributed by Project Instance (“PI”) Implementers. The PI will be contracted by TASC and with responsibility to handle the logistics of ICS distribution (storage, transportation, management etc.), and their ability to engage with local communities and identify suitable ICS recipients. The CME will sensitize the communities and individual recipients via an ongoing series of community sensitization meetings, to introduce the GP, the technology, and their impacts. During the distribution of the ICS, the participating household will sign an End User Agreement to confirm that the ownership rights of the carbon assets generated from this project lie with the project proponent. The format of the End User Agreement/^{ELIG/} has been checked by

the VVB. Section 1.7 of the Grouped PD provides the details of the ownership of carbon credits from the end user to TASC SA (Pty) Ltd.

The Project Boundary for the Grouped Project is the geographic borders of the Republic of South Africa with latitude: -28.48322 and longitude: 24.676997/^{VCD-PD/}. The geographical map of the location of the project, Republic of South Africa is provided in the VCS PD. The VVB reconfirmed the boundary of implementation of the project activity.

The start date/^{PSD/}of the GP, and first PI, is the date when the first stove is distributed under the GP/PI1 which is 20/08/2021. This is evidenced by the first stove entry in the monitoring database. The start date of the project activity meets the definition of start date as stated in VCS Program Definitions /^{VCS/}. In accordance with the Project Standard projects shall complete validation within two years of the project start date. The crediting period of the project is fixed and it is 10 years. The crediting period of the project activity starts on 20/08/2021 and ends on date 19/08/2031. The start date of the crediting period of the project activity is based on the start date of the project activity.

The project is categorized in Sectoral Scope 03 – Energy demand under type II – Energy efficiency improvement projects. It is a large-scale project with an average annual Emission reduction of 527,543tCO₂e/year and the total estimated ERs are 5,275,433tCO₂e.

ICS will be distributed to communities within South Africa (identified as relying on baseline open-fire wood-fueled cooking methods). Under the GP, the PI implementers will distribute ICS to communities identified in several regions within South Africa. The technologies employed in each PI will reduce GHG emissions by demonstrably reducing the usage of non-renewable biomass at the household level. The Project Boundary for the Grouped Project is the geographic borders of the Republic of South Africa. There are no laws or regulations for the use of improved cookstoves in South African households. This is a new project and has not been registered or seeking registration under any other GHG programs. The project does not participate in any emissions trading programs and other mechanism that includes GHG allowance trading. The project has not sought, nor received another form of GHG-related environmental credit. These facts were also reconfirmed during the remote interviews/^{IM/}.

The GP falls within the scope of the VCS Program as it is in line with the VCS Standard Project activities supported by a methodology approved under the VCS Program through the methodology approval process. The project does not fall under the category of excluded projects in Table 1 of the VCS Standard v4.0 and is therefore eligible under the scope of the VCS Program:

Excluded Activity	Explanation by CME	VVB Assessment (Accepted- Y/ N)
Activities that reduce hydrofluorocarbon-23 (HFC-23) emissions	N/A: The GP reduces GHG emissions associated with the combustion of cooking fuels	Y
Grid-connected electricity generation using hydro-power plants/units	N/A: The GP activities are energy efficiency measures and do not generate electricity from hydro-power plants/units.	Y
Grid-connected electricity generation using wind, geothermal, or solar power plants/units	N/A: The GP activities are energy efficiency measures and do not generate electricity from wind, geothermal, or solar power plants/units.	Y
Utilization of recovered waste heat for, inter alia combined cycle electricity generation and the provision of heat for residential, commercial or industrial use	N/A: The GP activities are energy efficiency measures and do not utilize recovered waste heat for any purposes.	
Generation of electricity and/or thermal energy using biomass. This does not include efficiency improvements in thermal applications (e.g, cookstoves)	N/A: The GP activities are energy efficiency measures and do not generate electricity using biomass. The GP includes energy efficiency improvements in thermal applications, i.e. cookstoves.	Y
Generation of electricity and/or thermal energy using fossil fuels, including activities that involve switching from a higher carbon content fuel to a lower carbon content fuel	N/A: The GP activities do not include the generation of electricity and/or thermal energy using fossil fuels, including activities that involve switching from a higher carbon content fuel to a lower carbon content fuel.	Y
Replacement of electric lighting with more energy efficient electric lighting such as the replacement of incandescent electrical bulbs with CFLs or LEDs	N/A: The GP activities do not include the replacement of electric lighting.	Y

Installation and/or replacement of electricity transmission lines and/or energy efficient transformers	N/A: The GP activities do not include the installation and/or replacement of electricity transmission lines and/or energy efficient transformers.	Y
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Avoidance of Double Counting

ICS Level

The VVB has assessed the template of the End User Agreement/^{ELIG}/. 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 (Pty) Ltd will claim the CO₂ emissions reductions from the stove and sell these as carbon credits.” Thus, the VVB confirms that the double counting is avoided with respect to the ICS units.

PI Level

This is a new project and has not been registered or seeking registration under any other GHG programs. The project does not participate in any emissions trading programs and other mechanism that includes GHG allowance trading. The project has not sought, nor received another form of GHG-related environmental credit. These facts were also reconfirmed during the remote interviews.

Baseline scenario

The conditions prior to project initiation are the use of non-renewable biomass (wood fuel) to generate thermal energy for cooking. For the baseline scenario is the same as the conditions existing prior to the project initiation. See Section 3.3.4 below.

Adjustment Factors (leakage management)

The project adopts a gross-to-net adjustment factor of 95% on emissions reductions to account for leakage as described under the methodology VMR0006, Section 8.3. The VVB confirms that no information has been excluded from the public version of the project description.

Contribution to Sustainable Growth

The project activity is inline with Priorities listed in the Sustainable Development Goals Country Report 2019 – South Africa², as stated below

a) Social sustainability

- Health benefits due to reduced exposure to air pollution from biomass burning.
- Time saved on wood harvesting can be used to engage in economic driven activities.
- Reduced accidental burn risk.
- Preservation of wood resources can reduce the risk of intercommunal and/or inter-ethnic conflict over resources.

b) Economic sustainability

- Reduced wood fuel consumption results in savings on firewood purchases and/or travel costs to acquire resources.
- Time saved from wood fuel harvesting can be used in economic driven activities.
- Employment of local people throughout the manufacturing, distribution and monitoring of the project.

c) Environmental sustainability

- Reduce GHG emissions.
- Reduce wood cutting which leads to deforestation and loss of biodiversity. Promote sustainable ecosystems and ecological balance.
- Protection of vegetation ensures better maintenance of water table levels, prevents soil erosion, flash flooding and maintenance of watersheds.
- Decreased household exposure to biomass burning emissions and improvement of general air quality.
- Reduced run-away fire risk when compared to conventional open-fire cooking methods.

The VVB has assessed and confirms that the project activity follows the sustainable development goals and will lead to enhancement of sustainable growth of the host country.

3.2 Safeguards

3.2.1 No Net Harm

The grouped project activity involves distribution of improved cook stoves. No potential negative

²http://www.statssa.gov.za/MDG/SDGs_Country_Report_2019_South_Africa.pdf

environmental and socio-economic impacts have been identified/ envisaged for the project.

3.2.2 Local Stakeholder Consultation

Covid 19 situation and related regulations in South Africa does not currently allow for physical gatherings of large groups of people. A plan for local stakeholder consultation amid the Covid-19 pandemic was submitted by the PP and same was approved by Verra. An online stakeholder consultation was held on 22/01/2021. Validation team confirms that the local stakeholder consultation conducted meets the requirements as provided. No negative comments were received during the local stakeholder comments.

3.2.3 Environmental Impact

The *grouped* project activity involves distribution of improved cook stoves. No environmental impact assessments are required or have been undertaken for the project.

3.2.4 Public Comments

The public commenting period for the project was from 12/05/2021 to 11/06/2021. Below comments were received and addressed by the CME.

Public Comments received	Response to Public Comments	VVB Assessment
Whereas the adoption of fuel-efficient cook stoves certainly has clear social and health benefits, there is concern with regard to the calculation of the change in GHG emissions due to the project activity, as well as alignment with South Africa's national policy and natural resource management programs. This is especially pertinent when the project area is set to the whole of South Africa. Estimation of the change in GHG emissions due to the project activity: The adoption of fuel efficient cookstoves has been viewed as	For the inclusion of PIs under the GP, the project proponent shall ensure that each PI meets the eligibility criteria set out in section 3.5.15 of the VCS Standard, section 4 of the VMR0006 methodology and section 2.2.8 and 2.2.9 of the AMS-II.G. methodology. The GP boundary is set to the geographic boundaries of South Africa to facilitate the possible inclusion of PIs within South Africa. However, each PI will have a unique and defined boundary within the overall GP boundary, as outlined in Section 1.12 above. The commenter states: "A response may be that the project will only focus	Eligibility criteria is updated to capture and address the stakeholder comments. Following the stakeholder comment, the CME is going to follow the inclusion of PI and define the regions under that particular CPA. The Desktop survey of the literature along with field data collection will be availed to define unique baseline data for each PI. This will ensure the most

a means of addressing unsustainable fuel wood usage and in turn deforestation over time. The estimation of the change in GHG emissions due to the project is therefore closely reliant on estimating the "fraction of woody biomass that can be established as non-renewable biomass". Based on national data and reports, I believe it can be safely assumed that biomass utilisation is renewable in South Africa and is not driving deforestation or forest degradation over time. A first reference is South Africa's most recent National GHG Inventory: https://cer.org.za/wp-content/uploads/2020/09/Draft-7th-National-Greenhouse-Gas-Inventory-Report-for-the-Republic-of-South-Africa-for-public-comment.pdf On page 352, one can see that "Forest land remaining Forest land" is a net sink of carbon, even after fuelwood harvesting has been taken into account.	on certain areas", and this is precisely how the GP is structured. Each PI is defined individually, with its own separate boundary that is drawn at the sub-national level. Furthermore, the CME will define unique baseline data for each PI, as can be seen with PI1-K2C, where PI-specific baseline fuel use surveys and regionalized fNRB studies were completed. Therefore, the impact of the stoves will be assessed at the sub-national level in accordance with each PI description, and not at the national level as the commenter suggests. Additionally, the National GHG Inventory, referenced in the public commentary, references studies that were published in 2013 and earlier. The socio-economic situation, the affordability of electricity and population density in rural areas in South Africa has changed considerably in the last eight years and has since also been exacerbated by the global Covid-19 pandemic³⁴⁵. According to the Global Forest Watch platform, South Africa lost 1.48 Mha of tree cover from 2001 to 2020, equivalent to a 25% decrease in tree cover since 2000. The Global Forest	appropriate value for the f_{NRB}.
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³ https://www.usaid.gov/sites/default/files/documents/ABA-ARISA_Impact_of_COVID_19_on_Womens_Customary_Land_Rights_and_Livelihoods_Dec_2020.pdf

⁴ Wiggins, S. 2020. Five ways Covid-19 could affect rural Africa – and what to do about it. <https://odi.org/en/insights/five-ways-covid-19-could-affect-rural-africa-and-what-to-do-about-it/>

⁵ Mubangizi, B.C. & Mubangizi, J.C. 2021. COVID-19, Rural Livelihoods and Human Rights: A South African Perspective. <https://doi.org/10.35741/issn.0258-2724.56.3.18>

A second reference, is that both the mapping of changes in forest cover informing the National GHG Inventory as well as other national analysis published in international peer-reviewed journals (e.g. Skowno et al. 2016; https://onlinelibrary.wiley.com/doi/abs/10.1111/gcb.13529); clearly illustrate the expansion of forests over time in South Africa. The extent of current forest cover in South Africa exceeds pre-colonial times. A response may be that the project will only focus on certain areas, but the project area is currently set to the whole of South Africa. If the PD is revisited and a smaller project area is defined, it would be interesting to see the long-term changes in forest cover and health in the area. Alignment with South Africa's national policy and programmes: At present, the National Government spends R2 Billion per year on the NRM programme, much of which flows into "Working on Water" and "Working on Ecosystems", which are principally aimed at	Watch also reported that in 2020 alone, South Africa lost 30.3kha of natural forest.⁶ Although South Africa's forestry sector is well developed, the heavy dependency of the rural poor in South Africa on forest resources is exerting pressure on indigenous forests and woodlands². The unsustainable harvesting of fuelwood has resulted in forest degradation, loss of millions of hectares of forest (deforestation) and desertification. The annual deforestation rate in South Africa is estimated to be 0.2 percent.”⁷ This disparity between management practices of woody biomass resources and the diverse climatic regions in South Africa will be taken into account when determining the PI boundaries and subsequent baselines of the PIs as described in sections 1.12 and 3.4 in the PD. Therefore, a desktop and/or field baseline survey will be conducted at PI level, which includes a baseline household wood fuel usage survey as well as a fraction of non-renewable biomass study. Each PI will be assessed for compliance with the eligibility criteria listed in Section 1.4 above.	
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⁶ Global Forest Watch. South Africa. Accessed on 20 August 2021. [Link here](#)

⁷ FAO. 2015. Southern Africa's forests and people – Investing in a sustainable future. <http://www.fao.org/3/i4894e/i4894e.pdf>

clearing trees across South Africa. Furthermore, land custodians are legally compelled to clear woody alien invasive species from their land and many invest considerable amounts clearing bush encroachment. This work is based on an extensive policy and strategy base aimed at both reducing the extent of bush encroachment and woody alien invasive species e.g.: https://www.arc.agric.za/arc-ppri/weeds/Pages/Legal-Obligations-Regarding-Invasive-Alien-Plants-in-South-Africa.aspx https://www.environment.gov.za/sites/default/files/reports/indigenousbushencroachment_policybrief.pdf. In conclusion, whereas the adoption of fuel efficient cookstoves may have social benefits, their eligibility as a climate change mitigation activity in South Africa may unfortunately not hold.		
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3.2.5 AFOLU-Specific Safeguards

This section is not applicable as the project is a non-AFOLU project.

3.3 Application of Methodology

3.3.1 Title and Reference

VMR0006: Methodology for installation of High Efficiency Firewood Cookstoves v1.1.⁸

CDM Guideline: Sampling and surveys for CDM project activities and programmes of activities, v4⁹

CDM Tool 19: Demonstration of additionality of microscale project activities, v9¹⁰

3.3.2 Applicability

VMR0006: Methodology for installation of High Efficiency Firewood Cookstoves v1.1

Methodology Applicability Criterion	Means of Validation
Project activities shall be implemented in domestic premises or in community-based kitchens.	The project will ensure the distribution of ICS to households or in community-based kitchens only. Household or community-based kitchen information, including GPS coordinates and the recipient's details will be collected at point of distribution which will be kept in the PI monitoring database. PI1-K2C The VVB has assessed the project database (on sample basis). During interview, the CME confirmed that the same provision will be implemented. Moreover, the VVB has also requested evidence of implementation with such provision and thus, CME has provided experts of their record as database, which was found to be inline with mentioned provision as above.
The project stove shall have specified high-power thermal efficiency of at least 25% per the manufacturer's specifications and shall exclusively use woody biomass and can be single pot or multi-pot; in case of project stove replacing fossil fuel baseline stove, it shall exclusively use renewable biomass.	The ICS distributed in this project <i>will have</i> thermal efficiency of at least 25%. The manufacturer's specifications will be described in the Project Instance design document. PI1-K2C The VVB has assessed that the PI deploys Zama rocket stove. As per the manufacturer's specification from Rocket Works for the Zama rocket the thermal efficiency of 38.3% (above the threshold of 25 %).
Both 'Projects' and 'Large Projects' can use the methodology.	The project size is allowed for the GP and PIs.

⁸ <https://verra.org/methodology/vmr0006-methodology-for-installation-of-high-efficiency-firewood-cookstoves/>

⁹ https://cdm.unfccc.int/filestorage/e/x/t/extfile-20151023152925164-Meth_GC48_-ver04.0-.pdf/Meth_GC48_%28ver04.0%29?t=akV8cXVjNnNrfDCCBpv3U-UxOHTmniOSuhTH

¹⁰ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-19-v9.pdf>

Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics; and	Non-renewable biomass has been used in South Africa, the geographic boundary of the GP, since 31 December 1989. Detailed assessment is documented below this table.
For the specific case of biomass residues processed as a fuel (e.g. briquettes, wood chips), it shall be demonstrated that: a) It is produced using exclusively renewable biomass (more than one type of biomass may be used). b) The consumption of the fuel should be monitored during the crediting period and Energy use for renewable biomass processing (e.g. shredding and compacting in the case of briquetting) may be considered as equivalent to the upstream emissions associated with the processing of the displaced fossil fuel and hence disregarded	Not applicable. The ICS will be distributed as an energy efficiency measure to replace stoves under the baseline stove scenario which burn non-renewable biomass. The baseline fuel information will be collected on the distribution data collection app at the point of distribution.

TOOL30: CDM Tool 30: Calculation of the fraction of non-renewable biomass

TOOL Applicability Criterion	Means of Validation
<i>DNAs to submit region- or country-specific default f_{NRB} values, following the procedures for development, revision, clarification and update of standardized baselines (SB procedures); or</i>	<i>NA</i> <i>The section 3.4 of the PDD clearly states that desktop and field baseline wood fuel use survey was carried out in the PI area, as well as a fraction of non-renewable biomass survey will be carried out in the PI area.</i>
<i>Project participants¹¹ to calculate project- or PoA-specific f_{NRB} values</i>	<i>The tool is utilized to determine GP Instance-specific f_{NRB} values. The tool is utilized for the calculation of the f_{NRB} project instance PI1-K2C.</i>

¹¹ In context of this methodological tool, the term project participant also includes coordinating and managing entities for a PoA.

Assessment pertaining to non-renewable biomass usage in the project area since 1989

Williams (1986) reported that fuelwood is the sole source of energy for less-developed rural and peri-urban areas in South Africa¹². Wood fuel use in sub-Saharan Africa has increased from 1,500 million m³ to 3,500 million m³ from 1950 to 1990 (Durning, 1991, cited in Dovie et al. 2004)¹³. Since 1992, between 80 and 99% of rural households in South Africa have relied on fuelwood to meet their energy needs. In 2012, 67% of households in South Africa still relied exclusively on fuelwood for their energy needs. In the communal areas of the South African Lowveld, the fuelwood dependence is particularly high, with an average household use of 3-4 tonnes of fuelwood per year (Wessles et al. 2013)¹⁴. In sub-Saharan Africa, fuelwood use has steadily increased with population growth (ESMAP, 2020)¹⁵. In a study by Swemmer et al. (2019), found that fuelwood supply cannot meet the demand in the project area¹⁶. Therefore, it can be concluded that non-renewable biomass have been used in the project region since December 1989.

Assessment of fNRBi,y

Review of fNRB calculation submitted by PP reveals that the estimation of non-domestic fuel consumption was credible sources as stated below

- Williams, A.T., 1986. The potential for the production of energy from biomass in South Africa (Master's dissertation, University of Cape Town).
- During A., 1991: Saving the forests: what will it take? World watch Paper 117. World watch Institute, Washington DC. ISBN-13: 978-1878071187
- Wessels, K.J., Colgan, M.S., Erasmus, B.F.N., Asner, G.P., Twine, W.C., Mathieu, R., Van Aardt, J.A.N., Fisher, J.T. & Smit, I.P.J. 2013. Unsustainable fuelwood extraction from South African savannas. *Environmental Research Letters*. 8 014007) doi:10.1088/1748-9326/8/1/014007
- Energy Sector Management Assistance Program (ESMAP). 2020. The State of Access to Modern Energy Cooking Services. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO
- Swemmer, A. M., Mashele, M. and Ndhlovu, P. D. (2019) 'Evidence for ecological sustainability of fuelwood harvesting at a rural village in South Africa', *Regional Environmental Change*, 19(2), p. 403. doi: 10.1007/s10113-018-1402-y
- Williams, A.T., 1986. The potential for the production of energy from biomass in South Africa (Master's dissertation, University of Cape Town).

¹² Williams, A.T., 1986. The potential for the production of energy from biomass in South Africa (Master's dissertation, University of Cape Town).

¹³ Dovie, D.B.K., Witkowski, E.T.F. & Shackleton, C.M. 2004. The fuelwood crisis in southern Africa – relating fuelwood use to livelihoods in a rural village. *GeoJournal* 60, 123-133. doi: 10.1023/B:GEJO.0000033597.34013.9f

¹⁴ Wessels, K.J., Colgan, M.S., Erasmus, B.F.N., Asner, G.P., Twine, W.C., Mathieu, R., Van Aardt, J.A.N., Fisher, J.T. & Smit, I.P.J. 2013. Unsustainable fuelwood extraction from South African savannas. *Environmental Research Letters*. 8 014007.) doi:10.1088/1748-9326/8/1/014007

¹⁵Energy Sector Management Assistance Program (ESMAP). 2020. The State of Access to Modern Energy Cooking Services. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO

¹⁶ Swemmer, A. M., Mashele, M. and Ndhlovu, P. D. (2019) 'Evidence for ecological sustainability of fuelwood harvesting at a rural village in South Africa', *Regional Environmental Change*, 19(2), p. 403. doi: 10.1007/s10113-018-1402-y

- Durning A., 1991: Saving the forests: what will it take? World watch Paper 117. World watch Institute, Washington DC. ISBN-13: 978-1878071187
- reference in PDD changed to Dovie, D.B.K., Witkowski, E.T.F. & Shackleton, C.M. 2004. The fuelwood crisis in southern Africa – relating fuelwood use to livelihoods in a rural village. GeoJournal 60, 123-133. doi: 10.1023/B:GEJO.0000033597.34013.9f.
- Wessels, K.J., Colgan, M.S., Erasmus, B.F.N., Asner, G.P., Twine, W.C., Mathieu, R., Van Aardt, J.A.N., Fisher, J.T. & Smit, I.P.J. 2013. Unsustainable fuelwood extraction from South African savannas. Environmental Research Letters. 8 014007.) doi:10.1088/1748-9326/8/1/014007
- Energy Sector Management Assistance Program (ESMAP). 2020. The State of Access to Modern Energy Cooking Services. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO
- Swemmer, A. M., Mashele, M. and Ndhlovu, P. D. (2019) ‘Evidence for ecological sustainability of fuelwood harvesting at a rural village in South Africa’, Regional Environmental Change, 19(2), p. 403. doi: 10.1007/s10113-018-1402-y The Fuelwood Crisis In Southern Africa

The details of the Protected areas in the Mopani and Ehlanzeni District Municipalities and Waterberg District Municipalities was sourced from interactive map (<https://www.globalforestwatch.org>). The data of the Natural Forest, Plantations and Non-forested area was sourced in a consistent manner (refer worksheet, 2021-03-31 Values for baseline and fNRB calculation v1_Promethium_Field values.xlsx` tabs “Mopani+Ehlanz. protected areas” and “Waterberg protected areas”).

The above ground biomass for subtropical montain systems was sourced appropriately from the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: V4_04_Ch4_Forest_Land Table 4.9, Subtropical dry forest – Africa (refer worksheet, 2021-03-31 Values for baseline and fNRB calculation v1_Promethium_Field values.xlsx` tab “MAIforest,i input”).

The baseline values of Fuel wood consumption and the number of households was sourced as below

Description	Values	Unit	Location	Region	Reference
Fuelwood consumption					
Fuelwood consumption mean	3.5	tonnes/household/year	Bushbuckridge Municipality	Kruger 2 Canyon	Page 4 of Wessels et al. - 2013 - Environmental Research letters
Fuelwood consumption mean	3,193	kg/household/year	Athol	Kruger 2 Canyon	Table 3, page 722, Matsika, Erasmus, Twine - 2013 - Energy Policy
Fuelwood consumption mean	3,285	kg/household/year	Welverdiend	Kruger 2 Canyon	Table 3, page 722, Matsika, Erasmus, Twine - 2013 - Energy Policy
Number of households					
Number of households in Waterberg area using wood for cooking	1,76,675	households	Waterberg	Waterberg	StatsSA census data
Number of households - Mopani	2,49,024	households	Mopani Municipality	Kruger 2 Canyon	Mopani Annual Report 2019/2020, used only rural and farming settlement household figures. Town households less likely to use biomass for cooking
Number of households - Ehlanzeni	4,83,903	households	Ehlanzeni	Kruger 2 Canyon	https://municipalities.co.za/demo-graphic/131/ehlanzeni-district-municipality

Description	Values	Unit	Location	Region	Reference
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Fuelwood consumption:					
Fuelwood consumption mean	5.49	tonnes/household/year	20 villages across K2C	Kruger 2 Canyon	Kok, L. 30 March 2021. Field baseline report - Kruger 2 Canyons.
Fforest,I (K2C)	3,56,660	ha	-	-	Global Forest Watch analysis of area

Equation 01 of Tool 30 was applied to calculate the fNRB. fNRB study for first Project Instance (PI1-K2C). Final figure to be determined for each PI. The value of fNRB is applied as 0.89.

3.3.3 Project Boundary

As per the § 15 of the methodology, AMS-II.G., version 12/METH/, “*The project boundary is the physical, geographical site of the efficient devices that utilize biomass*”. The geographical site has been identified in several regions within Republic of South Africa and thus the project boundary is the physical, geographical site of the efficient devices that utilize biomass. The Project Boundary for both the GP and PIs is further defined (as per the AMS II.G methodology) as: *the physical, geographical site of the efficient devices that utilize biomass*. Accordingly the sources and gases of the GHGs have been identified in the section 3.3 of the PD/VCS-PD/. The estimation of emissions in baseline and project situation has also been provided inline with the project boundary. There are no emissions accounted for the production and transport process of wood fuel in the baseline and project scenario.

The validation team confirms that all the identified emission sources which are impacted by the project activity are addressed by the approved methodology are captured and presented under section 3.3 of the PD /VCS-PD/. The sources of greenhouse gas identified in the PD/XLS/ are transparently reported and deemed as appropriate and in line with the applied methodology. The validation team confirms that the project boundary and selected sources, sinks and reservoirs are justified for the project.

Grouped Project

The GP boundary is defined as the geographic boundaries of the Republic of South Africa. Following the Global stakeholder comment, the project instances will also further define the region of implementation and define the fNRB. Thus, the project instances will be additionally defining the region of implementation/ dissemination of ICS.

Project Boundary for PI1-K2C

For the first PI, PI1-K2C, the project boundary is defined as being:

1. Within the hot- and temperate- interior climatic regions (see Figure 3.1 of VCS PD);
2. Within the Limpopo and Mpumalanga Provinces of South Africa;
3. Within the geographic boundaries of the District Municipalities of Mopani, Sekhukhune, and Ehlanzeni (see Figure 3.2 of VCS PD for precise illustration).

Distribution within the PI is located to the North-West, North-East, South-West and South-East of the town of Hoedspruit.

The coordinates of Hoedspruit are:

Latitude: -24.346194

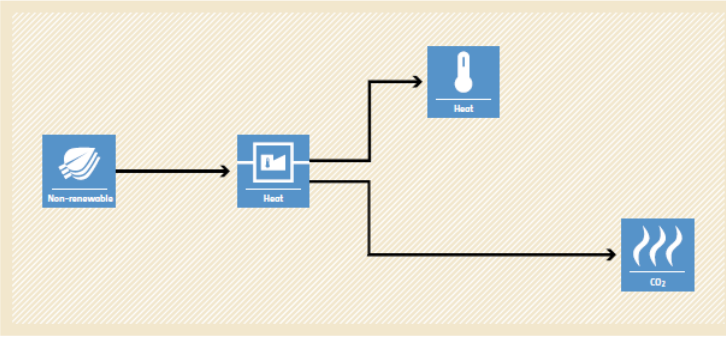
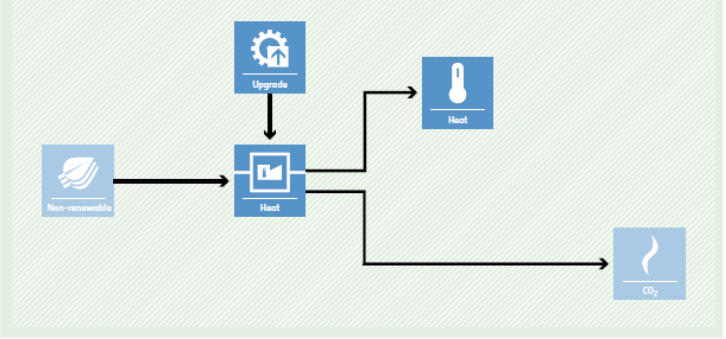
Longitude: 30.973297

The project boundary of PI1-K2C is defined to be located within 3 district municipality borders in the Limpopo and Mpumalanga Provinces of South Africa. These districts are the Ehlanzeni, Sekhukhune and Mopani Districts which are shown precisely in Figure 3.2 of VCS PD.

3.3.4 Baseline Scenario

Grouped Project

As per the VMR0006 methodology, the baseline scenario is the continued use of non-renewable wood fuel (firewood) by the target population to meet similar thermal energy needs as provided by project ICS in absence of project activity.

Scenario	Description
	Pre-project scenario
	Project scenario and project boundary. Less biomass burning gases and particulates are emitted.

Individual baseline emissions calculations will be defined in each Project Instance Document.

Baseline scenario for PI1-K2C

The baseline scenario in the PI has been identified as the ***continued use of non-renewable biomass in the absence of the project activity.***

- A desktop¹⁷ and field¹⁸ baseline wood fuel use survey, as well as a fraction of non-renewable biomass survey¹⁹ was carried out in the PI area.
- The literature sources for data were not contemporary (published in 2012 and 2013) thus desktop assessment in conjunction with field baseline results baseline survey were considered.
- The VVB assessed and confirms that the sample size and selection were determined in accordance with the CDM guidance on “Sampling and surveys for CDM project activities and programmes of activities v04.0” with a 90/10 confidence/precision level. The assessment of the survey confirms that the number of households, population and average household size in the region were appropriately considered. The sample size of 271 was appropriately derived based on the total population (1,211,015), with expected mean of 20, SD of 20, Z-multiplier 1.645 and relative precision of 10 %. The survey however availed sample of 300 households by applying selection of sample by simple random sampling across 20 villages in four regions within the K2C region. The Kitchen Performance Test protocol v4.0²⁰ of the Clean Cooking Alliance was followed and included a qualitative habit survey and daily wood use measurements over four consecutive days.

Assessment of fNRB Calculation

The VVB has assessed the calculation of fNRB by comparing the same with the provision of the VCS methodology VMR0006, Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1. VMR0006 requires the use of the CDM’s TOOL30 “Calculation of the fraction of non-renewable biomass” Version 3.0.²¹

TOOL30 was employed for calculation of the project specific fNRB on a regional basis (*the host country was divided into various regions based on the Global stakeholder comment*). The data from recent, national and local government statistics was appropriately considered and referenced. The quantity of NRB has been determined by calculating the total consumption of wood (H) in the K2C region and then deducting the quantity of renewable biomass (RB) from this value. The fNRB, calculated with the desktop baseline survey results (H) was then updated to include the results of the subsequent field baseline results, as per the recommendations of the report.

The results from the field baseline survey and updated fNRB calculations are as below:

¹⁷ Promethium Carbon. 31 March 2021. Desktop Study: Biomass Baseline for Cookstove Project in the Kruger to Canyon and Waterberg Biospheres.

¹⁸ L Kok. 30 March 2021. Field Baseline Report – Kruger 2 Canyons Fuel Efficient Cooking in South Africa.

¹⁹ Promethium Carbon. 31 March 2021. Desktop Study: Biomass Baseline for Cookstove Project in the Kruger to Canyon and Waterberg Biospheres.

AND

2021-03-31 Values for baseline and fNRB calculation v1_Promethium_Field values.xlsx

²⁰ Bailis, R., Thompson, R., Lam, N., Berrueta, V., Muhwezi, G. & Adams, E. 2018. Kitchen Performance Test (KPT) v4.0. Clean Cooking Alliance. 16p.

²¹ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v3.0.pdf>

H = 5.49 t/house/year

fNRB = 0.89

3.3.5 Additionality

The additionality is defined based on the methodology VMR0006 v1.1 as below.

Activity Method

Step 1: Regulatory Surplus

The VVB assessed and confirms that there is no mandated government programme or policy in the host country which mandates distribution of domestic fuel-efficient cookstoves. Thus, the project is not mandated by any law, statute or regulatory framework, or for the UNFCCC non-Annex I countries, any systematically enforced law, statute or other regulatory framework.

Thus, the participation is purely voluntarily. The VVB confirms that the proposed project is a voluntary coordinated action by TASC SA (Pty) Ltd. Step 1 is passed.

Step 2: Positive List

The applicability conditions of this methodology represent the positive list. The project meets all of the applicability conditions please refer section 3.3.2 of FVR. The project also meets the following conditions:

- The project distributes stoves at zero cost to the end-user and has no other source of revenue other than the sale of GHG credits.
- Project activities are not implemented as part of government schemes nor is the project supported by multilateral funds.

The GP and each PI included are deemed as meeting both steps (1,2) of the method and are therefore deemed as “additional”.

3.3.6 Quantification of GHG Emission Reductions and Removals

Baseline Emissions:

The methodology does not account for baseline emissions separately, but instead quantifies emission reductions as a function of the reduction in the amount of non-renewable biomass fuel consumption in the efficient project stoves as compared to baseline stoves. The equations are assessed as below, Equation 1 and 2. The VVB confirms that Section 1.10, of the Project Instance is updated with transparent explanation “Based on the initial investment into the GP, and taking the expected 5 year operational lifetime of the ICS into account, the GP’s ex-ante ERs were modelled to represent a conservative approximation. The actual operation of stoves is monitored via parameter $N_{y,}$, and therefore any stove found to be in operation beyond its expected lifetime may still be credited during the PI crediting period. Likewise, stoves found not to be in operation prior to the end of their lifetime will be discounted. Further investment into the GP would envisage additional ICS distribution and ERs over the crediting period”. PD under section 1.10 has provided an estimate of drop down rate of ICS beyond 5th year of crediting, which will be further monitored on ground during the PI verification and actual usage rate and corresponding emission reduction can be calculated.

This explanation is accepted as it leads to conservative estimate of emission reductions and the expected emission reductions are calculated over the technical lifetime of the stove (05 years) and the Project implementer will justify realization of emission reduction over the crediting period (in case it exceeds the expected emission reductions or the stated technical lifetime of the stove).

Project Emissions:

The methodology does not account for project emissions separately, but instead quantifies emission reductions as a function of the reduction in the amount of non-renewable biomass fuel consumption in the efficient project stoves as compared to baseline stoves. The equations are assessed as below, Equation 1 and 2.

Leakage:

Leakage shall be considered as default 0.95 in accordance with Section 8.3 of the applied methodology VRM006. The equations are assessed as below, Equation 1 and 2.

Procedure for quantification of net GHG emission reductions and removals:

Net GHG emission reductions are calculated by applying Equations 1 and 2 of the VMR0006 methodology, for project activities replacing baseline stoves using non-renewable biomass (firewood/charcoal):

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

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

$$\text{Equation 2 } ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times fNRB_y \times (EF_{wf,CO_2} + EF_{wf,nonCO_2}) \times N_{y,i,j} \times 0.95$$

$B_{y,savings,i,j}$	Quantity of woody biomass that is saved in tonnes per improved cookstove of type i and batch j .
$NCV_{wood\ fuel}$	Net calorific value of the non-renewable woody biomass that is substituted or reduced (IPCC default: 0.0156TJ/tonne).
$fNRB_y$	Fraction of woody biomass that can be established as non-renewable biomass.

EF_{wf,CO_2}	CO ₂ emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel: 112 tCO ₂ /TJ).
$EF_{wf,nonCO_2}$	Non-CO ₂ emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel: 26.23 tCO ₂ /TJ).
$N_{y,i,j}$	Number of improved cookstoves of type i and batch j operating during year y.
0.95	Discount factor to account for leakage.

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:

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

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

The efficiency of the project stoves can be estimated using Equation 4:

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

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.

Where project households continue to use baseline cookstoves along with the ICS, B_{old} shall be adjusted ex-post based on the percentage of project households found to continue such practice according to Equation 5. For such cases, the quantity of woody biomass saved, $B_{y,savings,i,j}$ due to implementation of ICS shall be calculated using an adjusted value to account for ex-post use of baseline stoves in addition to improved cookstoves.

$$\text{Equation 6 } B_{old,adjusted} = B_{old} \times (1 - \mu_y)$$

$B_{old,adjusted}$	Adjusted B_{old} to account the ex-post usage of firewood in baseline cookstove(s) by project households in addition to improved cookstove (in tonnes per device).
μ_y	Baseline stove usage factor to account for use of baseline cookstoves along with improved cookstoves.

Detailed application of the methodology will be described in the Project Instance PD.

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

Historical Data.

Baseline Survey of Local Usage.

Minimum Service Level

A net gross leakage factor of 0.95 is applied to $ER_{y,i,j}$.

The equations above assume that a single baseline stove is replaced by a single project stove.

Only 1 project device will be distributed per household in the project, as evidenced by the monitoring database entries, and so the following equations are not relevant to the calculation of ERs in the project and will not be monitored:

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

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

$B_{old,HH}$	Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices (tonnes/household/year)
$N_{d,HH}$	Number of project devices per household
$B_{old,p}$	Annual quantity of woody biomass that would have been used per person in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices (tonnes/person/year)
$N_{p,HH}$	Average number of households

For projects opting for $By=1, new, i, j, survey$, it shall be demonstrated that the consumption of biomass for individual project stoves can be measured exclusive of one another.

Example calculations, data and parameter estimates

Ex-ante factors

Ex-ante Parameters	Units	Fixed Project Parameters	Description	Source	VVB Assessment (Y/ N)
Ef_{wf,CO_2}	tCO ₂ e/TJ	112	CO ₂ emission factor of biomass that is substituted or reduced	VMR0006 default	Y
$Ef_{wf,non-CO_2}$	tCO ₂ e/TJ	26.23	Non-CO ₂ emission factor of biomass that is substituted or reduced	VMR0006 default	Y
$NCV_{biomass}$	TJ/t of wood	0.0156	Net calorific value of biomass	VMR0006 default	Y

η_{old}	fraction	0.1	Efficiency of the baseline cookstove being replaced	VMR0006 default	Y
DF	fraction	0.95	Default leakage adjustment factor	VMR0006 default	Y
B_{old}	t/year	5.49	Quantity of biomass consumed in baseline scenario (tonnes per household per year).	Example used: Field baseline survey for first Project Instance (PI1-K2C). Final figure to be determined for each PI.	Y
$f_{NRB,b,y}$	fraction	0.89	Fraction of biomass used in baseline scenario, which can be established as non-renewable.	Example used: fNRB study for first Project Instance (PI1-K2C). Final figure to be determined for each PI.	Y
η_p	fraction	38.3%	Efficiency of project cookstove (fraction) determined at the start of the project activity.	Example used: Rocket Works' Zama Zama wood stove; South Africa lab efficiency test (stove to be distributed in PI1-K2C). Final figure to be determined for each PI.	Y
DF	fraction	0.99	Default value considered for discount factor to account for efficiency loss of project cookstove per year of operation.	VMR0006 default	Y

To determine the efficiency of project stoves and accounting for efficiency loss of the project stoves, Equation 4 was used.

$$\begin{aligned}
 \eta_{New,y} &= \eta_p \times (DF)^{(y-1)} \times 0.94 \\
 &= 0.383 \times (0.99)^{(1-1)} \times 0.94 \\
 &= 0.360
 \end{aligned}$$

$B_{y,savings,i,j}$ (tonnes per ICS per annum) was then determined via Equation 3:

$$\begin{aligned}
 B_{y,savings,i,j} &= B_{old} \times \left(1 - \frac{\eta_{old}}{\eta_{new,i,j}}\right) \\
 &= 5.490 \times (1 - 0.1/0.360)
 \end{aligned}$$

$$= 3.965 \text{ t/yr}$$

$ER_{y,i,j}$ (tonnes per ICS per annum) was then determined via Equation 2 for Year 1:

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times fNRB_y \times (EF_{wf,CO_2} + EF_{wf,nonCO_2}) \times N_{y,i,j} \times 0.95$$

$$= 3.965 \times 0.0156 \times 0.89 \times (112 + 26.23) \times 1 \times 0.95$$

$$= 7.229 \text{ tCO}_2\text{e}$$

Results of the Ex-ante calculations (based on PI1-K2C estimates)

Year	Estimated baseline emissions or removals (tCO ₂ e)	Estimated project emissions or removals (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
Year 1	429959	0	0	429 959
Year 2	878,910	0	0	878 910
Year 3	809,789	0	0	809 789
Year 4	725,899	0	0	725 899
Year 5	632,588	0	0	632 588
Year 6	535,491	0	0	535 491
Year 7	439,939	0	0	439 939
Year 8	350,463	0	0	350 463
Year 9	270,444	0	0	270 444
Year 10	201,951	0	0	201 951
Total	5,275,433	0	0	5,275,433

3.3.7 Methodology Deviations

No methodology deviations have been applied to the project activity.

3.3.8 Monitoring Plan

Assessment of Monitoring Plan

Data / Parameter	$N_{y,i,j}$	Number of project devices of type I and batch j operating during year y
Unit	Number	
Value	130,000	
Source of data	Monitoring survey	
Monitoring frequency (measuring and monitoring)	At least once every two years	
Description of measurement methods	Survey form	

	The total number of devices in operation compared to the total number of distributed (according to the monitoring database) will be surveyed. Devices in operation in the sampled group will be counted during each monitoring period to derive an attrition rate (expressed as a percentage) and this percentage deduction will be applied to the total number of devices operating.
Monitoring Equipment	No monitoring equipment- Survey <i>records</i> <i>Proportion of operational stoves obtained from the survey is multiplied by the total commissioned stoves to arrive at this value</i>
QA/QC procedures	Data from the monitoring survey will be collected at least biennially and applied to the emissions reductions calculations during that monitoring period. Where the required level of precision is not met either additional surveys may be completed, or the lower bound value applied.
Purpose of data	Calculation of emission reductions

Data / Parameter	$\eta_{new,i,j}$	Fraction
Unit	Efficiency of the device of each type i and batch j implemented as part of the project activity.	
Value	38.3 %	
Source of data	Measurements at project facility	
Monitoring frequency (measuring and monitoring)	Annually	
Description of measurement methods	The methodology allows for 5 ways of measuring this parameter, as follows: - Conduct WBT test on a sample of three improved cookstoves with three tests conducted for each stove. The test can be carried out by project proponents by themselves or stove manufacturers or other third parties. - Efficiency to be tested is high-power thermal efficiency. The high-power thermal efficiency is the average of the Cold Start and Hot Start phases¹². - The average of all results for each device type/model and batch shall be taken as the efficiency for each device type and batch. - If the standard deviation of the test results indicated above is very small and 90/10 precision requirement is	

	met (in this case, the value of the t-distribution for 90 per cent confidence shall be used instead of Z value), the efficiency determined is acceptable, otherwise more sample tests would be required until 90/10 precision is met. v. Efficiency of the improved cookstoves can also be estimated ex-ante using equation 5 where loss in efficiency per year is calculated, and therefore this parameter does not need to be monitored. Each PI will apply either: - Steps i-iv: measured approach - Step v: (using methodology equation 5) meaning this parameter does not need to be monitored: calculated approach
Monitoring Equipment	When measured: as specified in WBT protocol When calculated: none
QA/QC procedures	Data will be collected annually and applied to the emissions reductions calculations during that monitoring period. Where the required level of precision is not met either additional monitoring activities may be completed, or the lower bound value applied.
Purpose of data	Calculation of emission reductions in Equation 3

Data / Parameter	μ_y	<i>Adjustment to account for any continued use of pre-project devices during the year y</i>
Unit	Fraction	
Value	0	
Source of data	Monitoring survey	
Monitoring frequency (measuring and monitoring)	At least once every two years	
Description of measurement methods	This parameter should be monitored using one of the following methods: • If the baseline cookstoves are decommissioned and no longer used, as determined by the monitoring survey its value is 0 and Bold, adjusted is equal to Bold. • If both the improved cookstove and baseline cookstoves are used together then surveys shall be conducted to record the average continued operation of baseline cookstoves in a sample of households.	

	The surveys should be designed to capture the cooking habits and stove usage of households in the region, including quantification of use of baseline cookstoves, by formulating questions and/or collecting evidence to determine the frequency of usage of both the improved cookstoves and baseline cookstoves. For example, if there were 3 baseline cookstoves in a household and it was determined during the survey that use of one of them continues during the crediting period then a conservative adjustment factor of 0.33 is applied to Bold. Another example would be the case where there was only one baseline cookstove per household and its use during the project period continues along with the improved cookstove to meet 25% of the cooking needs of the household in which case the adjustment factor will be 0.25. Another example would be to interview the household and have them estimate the time of usage of the baseline cookstoves and improved cookstove on an average day. ²²
Monitoring Equipment	Survey form
QA/QC procedures	Data from the monitoring survey will be collected at least once every two years and applied to the emissions reductions calculations during that monitoring period. Where the required level of precision is not met either additional surveys may be completed, or the lower bound value applied.
Purpose of data	Calculation of emission reduction in Equation 6.

Data / Parameter	η_{old}	Efficiency of baseline stove
Unit	Fraction	
Value	0.1 or 0.2	
Source of data	Methodology default 0.1 or 0.2 Surveyed prior to implementation of project activity	
Monitoring frequency (measuring and monitoring)	Fixed for each individual household at the time of project implementation	
Description of measurement methods	In most cases, Pls will use option A under the methodology, but options B-D may be utilized if required: a) A default value of 0.1 shall be used if baseline device is a three-stone fire using firewood (not charcoal), or a	

²² For example, if a household reports to be preparing 3 meals in a day using 35 minutes each, out of which one meal is prepared on the baseline stove, then cooking time on secondary stove and project stove would be 0.33 and 0.66 respectively.

	conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney; b) A default value of 0.2 shall be used for other types of devices. c) If more than one type of baseline device is being replaced in the project region, weighted average values (taking the amount of woody biomass consumed by each device as the weighting factor) shall be used. If this parameter is surveyed, project promoters may use simplified guidelines stated under Option (b) in Section 4.4 of PD for arriving at the minimum sample size
Monitoring Equipment	-
QA/QC procedures	The baseline survey for PI1-K2C shows predominant use of woodfuel amongst households in the first PI Project Boundary. PIs will expressly targeted households that cook predominantly on an open fire, hence the application of Option A as the ex-ante parameter value. In all cases, the baseline device replaced within each household will be captured at the point of ICS distribution and recorded in the monitoring database. Ex-post values will be adjusted accordingly.
Purpose of data	Calculation of emission reduction in Equation 3.

Data / Parameter	Life Span	Operating lifetime of project device
Unit	Years	
Value	5	
Source of data	Manufacturer's specification	
Monitoring frequency (measuring and monitoring)	Once at point of distribution	
Description of measurement methods	Device manufacturers will provide a statement on the expected operational lifetime of the device	
Monitoring Equipment	-	
QA/QC procedures	Stoves will have an expected operational lifetime and this value is used for ex-ante emissions reductions calculations. The actual operation of stoves is monitored via parameter Ny, and therefore any stove found to be in operation beyond its expected lifetime may still be credited during the PI crediting period. Likewise, stoves found not to be in operation prior to the end of their lifetime will be discounted.	

Purpose of data	Calculation of emissions reductions
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Data / Parameter	NCV_{biomass}	Net calorific value of the non-renewable woody biomass, renewable biomass, briquettes or pellets used in project devices
Unit	TJ/tonne	
Value	0.0156	
Source of data	Default	
Monitoring frequency (measuring and monitoring)	Annual	
Description of measurement methods	Pls will adopt the methodology (IPCC) default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is 'air-dried' may be used if fuel used in project device is woody biomass/renewable biomass.	
Monitoring Equipment	None	
QA/QC procedures	Measurement in laboratories according to relevant national/international standards based on dry biomass. Consistency of the measurements to be checked by comparing the measurement results with measurements from previous years, relevant data sources (e.g. values in the literature, values used in the national GHG inventory) and default values by the IPCC.	
Purpose of data	Calculation of emission reduction	

Data / Parameter	$B_{y=1,new,i,j,survey}$	Quantity of woody biomass used by project devices in tonnes per device of type i
Unit	Tonnes	
Value	-	
Source of data	Survey	
Monitoring frequency (measuring and monitoring)	Determined in the first year of project implementation	
Description of measurement methods	Minimum sample size of each type i and batch j should be in line with the latest version of Standard for sampling and surveys for project activities and programme of activities or guidelines provided in section 8.4 option (b). Determined in the first year of the introduction of the devices (e.g. during the first year of the crediting period, $y=1$) through measurement campaigns at representative households and/or	

	sample survey. 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.
Monitoring Equipment	As specified in KPT protocol
QA/QC procedures	Data collected will be applied to the emissions reduction calculations during that monitoring period. Where the required level of precision is not met either additional monitoring activities may be completed, or the lower bound value applied.
Purpose of data	Calculation of emission reductions in Equation $B_{y,saving,i,j} = B_{y=1,new,i,j,survey} \times \left(\frac{\eta_{new,i,j}}{\eta_{old}} - 1 \right)$

The sampling plan design is based on the CDM Guideline: Sampling and surveys for CDM project activities and programmes of activities, version 4. Sampling activities are defined at the Grouped Project-level and the sampling plan presented here will apply to assess parameter values in Project Instances to be included in the GP, either individually or in groups.

In accordance with the Methodology and the Standard, PI are categorized as CDM small scale, samples will be calculated on a 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.

In cases where the confidence/precision are not achieved, the lower bound of the confidence interval of the parameter value may be chosen as an alternative to repeating the survey efforts.

Parameter values may be estimated by sampling in accordance with Sampling Standard for a single or a group of PIs²³. A single sampling plan covering a group of PIs is justified when either the homogeneity of included PIs relative to the parameters of interest can be demonstrated or the differences among the included PIs is taken into account in the sample size calculation.

²³ That is, the populations of all Project Instances in the group are combined together, the sample size is determined and a single survey is undertaken to collect data.

a. Target Population

The target population will be the combined unique entries of ICS users by PI in the monitoring database from which the sample is being drawn.

b. Sampling Method

For each survey, the sampling method will be determined by using a random sample of the total population of distributed ICS from records generated in the monitoring database and based on the precision requirements listed above, and as required by the methodology and guidance in the Sampling Standard.

c. Sample Size

The sample size for each monitoring activity will be the total number of ICS distributed and included in the monitoring database. A sample size calculation sheet will be used to calculate the number of samples.

Oversampling will be conducted to ensure that the required level of precision is met.

The formula used for sampling are as follows:

1. For proportion-based parameters:

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

Where:

n	=	Sample size
N	=	Total number of households (640,000)
p	=	Our expected proportion (0.50)
1.645	=	Represents the 90% confidence required
0.1	=	Represents the 10% relative precision ($0.1 \times 0.5 = 0.05 = 5\%$ points either side of p)

2. For mean based parameters:

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

Equation (18)

Where:

$$V = \left(\frac{SD}{mean} \right)^2$$

 n = Sample size

 N = Total number of households

 $Mean$ = Our expected mean (3.5 hours)

 SD = Our expected standard deviation (2.5 hours)

1.645 = Represents the 90% confidence required

d. Sampling Frame

The Sampling Frame will be the monitoring database which may contain information from multiple PIs and therefore allows for sampling to be taken per PI or as a group of PIs.

3.4 Non-Permanence Risk Analysis

Not Applicable as it is not a AFOLU project activity

4 VALIDATION CONCLUSION

TASC SA Ltd. has commissioned TÜV NORD CERT GmbH., to perform an independent validation of the VCS Project Activity “Fuel Efficient Cooking in South Africa” in South Africa. This report summarizes the findings of the validation of the project, performed on the basis of VCS criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation process was performed on the basis of all guidance and criteria as provided in VCS Standard/^{VCS}/, VCS Program Guide/^{VCS}/ and Registration & Issuance Process/^{VCS}/. The project activity provides the information in PD/^{XLS}/ as required by the VCS Standard/^{VCS}/ and in TÜV NORD CERT GmbH’ s opinion meets the requirements of the applied baseline and monitoring methodology, VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves v1.1/^{METH}/ and is likely to achieve the estimated emission reductions. The validation has been performed using a risk-based approach, as described above. The expected average emission reductions from the project activity are 527,543 tCO₂e/year and the total over the crediting period of 10 years is 5,275,433 tCO₂e.

As a result of validation, a positive opinion is issued by TÜV NORD CERT GmbH. for the VCS Project Activity “Fuel Efficient Cooking in South Africa” (as described in the PD) located in South Africa.

Delhi, 04/03/2022



Prakash Mishra
TÜV NORD JI/CDM CP
Verification Team Leader

Essen, 04/03/2022



Kunal Rami
TÜV NORD JI/CDM CP
Final Approval

APPENDIX 1: REFERENCE DOCUMENTS

Reference	Document
/Baseline/	1. TASC cookstove baseline desktop study_Promethium.pdf dated 2021-03-31 (Desktop Study: Biomass Baseline for Cookstove Project in the Kruger to Canyon and Waterberg Biospheres) 2. Field Baseline Report – Kruger 2 Canyons Fuel Efficient Cooking in South Africa
/ELIG/	Eligibility criteria requirements: 1. Project Database (Stove sales database with stove serial numbers) 2. Photographs of the stoves under the program 3. Carbon Waiver loan agreement 4. Stove Manufacturer's technology description (Rocket Stove guide by TASC) 5. Stove lifetime declaration letter by Rocket Works 6. ONA_database screenshot_1.png 7. Format of cookstove End User Agreement by TASC SA (Pty) Ltd. 8. Redacted term sheet for project funding evidence.pdf 9. Format of monitoring database containing unique household end user information / Format for data collection via smartphone app or survey form 10. Sales receipts 11. <i>List of South African government programmes or their policy for cookstoves</i> 12. Snapshot of the App which is designed to avoid double accounting
/fNRB/	• Fraction of non-renewable biomass calculations (2021-03-31 Values for baseline and fNRB calculation v1_Promethium_Field baseline values.xlsx) • Williams, A.T., 1986. The potential for the production of energy from biomass in South Africa (Master's dissertation, University of Cape Town). • Durning A., 1991: Saving the forests: what will it take? World watch Paper 117. World watch Institute, Washington DC. ISBN-13: 978-1878071187 • Wessels, K.J., Colgan, M.S., Erasmus, B.F.N., Asner, G.P., Twine, W.C., Mathieu, R., Van Aardt, J.A.N., Fisher, J.T. & Smit, I.P.J. 2013. Unsustainable fuelwood extraction from South African savannas. Environmental Research Letters. 8 014007) doi:10.1088/1748-9326/8/1/014007 • Energy Sector Management Assistance Program (ESMAP). 2020. The State of Access to Modern Energy Cooking Services. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO • Swemmer, A. M., Mashele, M. and Ndhlovu, P. D. (2019) 'Evidence for ecological sustainability of fuelwood harvesting at a rural village in South Africa', Regional Environmental Change, 19(2), p. 403. doi: 10.1007/s10113-018-1402-y • Williams, A.T., 1986. The potential for the production of energy from biomass in South Africa (Master's dissertation, University of Cape Town). • Durning A., 1991: Saving the forests: what will it take? World watch Paper 117. World watch Institute, Washington DC. ISBN-13: 978-1878071187 • reference in PDD changed to Dovie, D.B.K., Witkowski, E.T.F. & Shackleton, C.M. 2004. The fuelwood crisis in southern Africa – relating fuelwood use to livelihoods in a rural village. GeoJournal 60, 123-133. doi: 10.1023/B:GEJO.0000033597.34013.9f. • Wessels, K.J., Colgan, M.S., Erasmus, B.F.N., Asner, G.P., Twine, W.C., Mathieu, R., Van Aardt, J.A.N., Fisher, J.T. & Smit, I.P.J. 2013. Unsustainable fuelwood extraction from South African savannas. Environmental Research Letters. 8 014007.) doi:10.1088/1748-9326/8/1/014007 • Energy Sector Management Assistance Program (ESMAP). 2020. The State of

	Access to Modern Energy Cooking Services. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO Swemmer, A. M., Mashele, M. and Ndhlovu, P. D. (2019) 'Evidence for ecological sustainability of fuelwood harvesting at a rural village in South Africa', <i>Regional Environmental Change</i>, 19(2), p. 403. doi: 10.1007/s10113-018-1402-y The Fuelwood Crisis In Southern Africa	
/LSC/	1. Pre-distribution Sensitisation Meetings.pdf 2. Local Stakeholder Consultation_K2C Report_Compiled_v2_CONFIDENTIAL.pdf 3. LSC Feedback K2C.xlsx	
/METH/	Verra UNFCCC	- VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves v1.1 <u>AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass --- Version 11.1</u> - AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass --- Version 12.0
/PS/	UNFCCC	CDM project standard for programmes of activities, version 03
/PSD/	The start date - Sales invoice when the first stove is distributed	
/SAMPLE/	UNFCCC	Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities – version 04.0
/TD/	1. tascSA Cookstoves How-To-Guide- draft4 -single pages - 3 June 2021.pdf 2. Stove Thermal Efficiency testing report by BECT Moz for RW Zama Zama 3. Stove Thermal Efficiency and Emissions Interim Test Report by SETAR CENTRE for Rocketworks Wood Stove 4. Non-Technical Summary - SA Cookstoves_K2C_Final.pdf	
/TOOL/	UNFCCC	CDM Tool 19: Demonstration of additionality of microscale project activities CDM's TOOL30 "Calculation of the fraction of non-renewable biomass" Version 3.0
/VCS/	- VCS PD template <i>Project Description</i>, v4.0 - VCS Standard (v4.1, dated 22 April 2021) - VCS Program Definitions - VCS Program Guide (v4.0, dated 19 September 2019), - VCS Standard (v4.1, dated 22 April 2021), - Program Definitions (v4.1, dated 19 September 2019), - Registration & Issuance Process (v4.0, dated 19 September 2019)	
/VCS-PD/	Project Description titled: - Draft - Fuel Efficient Cooking in South Africa Grouped PDD_v6 - Fuel Efficient Cooking in South Africa Grouped PDD_Draft Validation Response_v6 - Fuel Efficient Cooking in South Africa Grouped PDD_Draft Validation Response_v7, 06/ January/2022 - Fuel Efficient Cooking in South Africa Grouped PDD_Draft Validation Response_v9, 03/ March/2022	
/VVS/	UNFCCC	CDM validation and verification standard for

		programmes of activities, Version 3.0
/XLS/	ER sheet corresponding to: 1. ER SA Verra_PI1-K2C.xlsx (draft) 2. ER SA Verra_PI1-K2C.xlsx (Final)	

APPENDIX 2: ABBREVIATIONS

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CME	Coordinating / Managing Entity
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CP	Certification Program
DOE	Designated Operational Entities
EC	Eligibility Criteria
EIA	Environmental Impact Assessment
GHG	Greenhouse gas(es)
GP	Grouped Project
LSHC	Local Stakeholder Consultation
HH	Households
ICS	Improved cookstove
PA	Project Activity
PI	Project Instance
PP	Project Participant
PSD	Project Start date
SD	Sustainable Development

UNFCCC	United Nations Framework Convention on Climate Change
VB	Validation and verification Body
VCS	Validation and Verification Standard

APPENDIX-3: ASSESSMENT OF ELIGIBILITY CRITERIA

Table: Eligibility criteria for the inclusion of new project activity instances

No	Criterion	How the new project activity instances comply	Evidence Provided and Applicability to PI1-K2C	VVB Assessment
1	Project Instances (PIs) must meet the applicability conditions set out in the applied methodology.	PI must demonstrate compliance with the applicability conditions set out in the employed methodology: VMR0006.	PI1-K2C is compliant with the applicability conditions set out in the applied VMR0006 methodology as demonstrated in Section 3.2 of this project description. Please see details below	All the applicability conditions are met. Please refer section 3.3.2 of FVR for detailed assessment. Applicable for PI also.
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 PI1-K2C, delivers a level of service at least equivalent to the baseline appliance as evidenced in the technology description. ²⁴	The technical specification of the stove was verified. The thermal efficiency of the Rocket Works Zama Zama rocket stove was 38.3 %.
3	Apply the technologies or measures in the same manner as specified in the project description.	The ICS distributed in the PIs will adhere to the GP description and replace biomass burned in the baseline scenario.	a) The manufacturer's technology description describes the applicability of the ICS technology to be distributed in PI1-K2C.	VVB assessed that the ICSs distributed in this project as an energy efficiency measure to replace stoves under the

²⁴ Stove thermal efficiency test report. April 2015. Biomass Energy Certification & Testing Center (BECT). Fundação Universitária - Universidade Eduardo Mondlane - Maputo / Mozambique

			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.	baseline stove scenario of burning non-renewable biomass. The baseline fuel information will be collected on the distribution data collection app at the point of distribution. The CME will be maintaining the database of the distributed stoves and will capture these relevant details. Hence this EC is met.
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 in this 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) PI1-K2C is subject to the same baseline scenario described in Section 3.4 in this Project Description as identified by a baseline survey.	The GP boundary is defined as the geographic boundaries of the Republic of South Africa which is demonstrated in section 3.4 of VCS-PD. VVB has reviewed the location data captured from the stove user that will demonstrate the location of the project. Hence this EC is met.
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	1. There is no government mandated programme or policy in South Africa ensuring the distribution of new project activity instances or fuel efficient cookstoves. 2. PI1-K2C complies with the positive list in the methodology and satisfies	There are no South African government programmes or policy for cookstoves for dissemination of ICS. The ICS are distributed free of cost. The End User agreement confirms that the PI "installs or distributes stoves at zero cost to the end-user and has no other

		<i>distribution of new project activity instances.</i> <i>Step 2: Positive List</i> <i>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.</i> <i>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.</i> <i>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</i>	<i>criterion 1 as it meets all the applicability conditions of the methodology.</i> <i>The End User 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”.²⁵</i> <i>The PIs are not implemented as part of a government scheme nor are they supported by multilateral funds.</i> <i>This is evidenced through Agreements with investors (confidential parts of the document may be redacted).²⁶</i> <i>The CME confirms that PI1-K2C will not result in the diversion of official development assistance.</i>	<i>source of revenue other than the sale of GHG credits”.</i> <i>Additionally, the agreement between the Agreements with investors confirms that there is no ODA involved.</i> <i>Hence this EC is met.</i>
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²⁵ End User Agreement for PI1-K2C

²⁶ Redacted term sheet for project funding evidence

		<i>not eligible to use this methodology.</i> <i>Pls under the GP will not result in the diversion of official development assistance</i>		
6	<i>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:</i> <i>Each project activity instance that exceeds one percent of the capacity limit shall be identified.</i> <i>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</i>	<i>The VMR0006 methodology does not contain a capacity limit.</i>	<i>A capacity limit does not apply under the VMR0006 methodology</i>	<i>A capacity limit does not apply under the VMR0006 methodology Hence this EC is met.</i>

	<i>not be assigned to clusters.</i> • <i>None of the clusters shall exceed the capacity limit and no further project activity instances shall be added to the project that would cause any of the clusters to exceed the capacity limit.</i>			
7	<i>Occur within one of the designated geographic areas specified in the project description.</i>	<i>a) New project activity instances will be located within the geographic boundaries of South Africa and defined in the instance description document.</i> <i>GPS/location data captured from each end user will demonstrate the location of the project and of each PI.</i>	<i>a) The geographic boundary of PI1-K2C is demonstrated to be within South Africa and defined in section 3.3 of this document.</i> <i>b) The GPS/location data captured from each end user demonstrating the location of the PI will be provided at the time of verification.</i> <i>The GPS/location information will be stored in the monitoring and data collection database.</i>	<i>The Data of the geographic boundary will be saved to demonstrate that the project activity falls within the Geographical boundary of South Africa. In addition, the data pertaining to the GPS will provide precise location of end users.</i> <i>Hence this EC is met.</i>
8	<i>Comply with at least one complete set of eligibility criteria for the inclusion of new project activity instances. Partial</i>	<i>Compliance of new PIs will be evaluated exclusively against the eligibility criteria listed in this table.</i>	<i>PI1-K2C complies with the full set of eligibility criteria for the inclusion of new project activity instances as described in this Table 2.</i>	<i>The new project instances will have to meet all the eligibility criteria.</i> <i>PI1-K2C complies with the full set of eligibility criteria.</i>

	<i>compliance with multiple sets of eligibility criteria is insufficient.</i>			<i>Hence this EC is met.</i>
9	<i>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.</i>	<i>New PIs will be described 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. 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 surveys²⁷ and applicable provisions will be included when submitting for PI validation at verification.</i>	<i>The evidences relevant to PI1-K2C for the local stakeholder engagements, baseline surveys and applicable provisions is submitted alongside this PDD. Monitoring data for PI1-K2C will be provided to the VVB at verification.</i>	<i>All the relevant information pertaining to the technical, financial, geographic, and other relevant information enable sampling by the validation/verification body will be included at time of monitoring. Monitoring data for PI1-K2C will also be provided to the VVB at verification. Hence this EC is met.</i>
10	<i>Be validated at the time of verification against the</i>	<i>New PIs will be submitted for validation against the applicable</i>	<i>PI1-K2C conforms to the eligibility criteria set out in this table.</i>	<i>New PI will have to undergo the assessment against the eligibility criteria.</i>

²⁷ Desktop or field baseline surveys will be conducted at the PI level and will include quantitative survey on biomass fuel used for cooking and a fNRB survey in the PI boundary. Where a desktop or field baseline survey cannot be performed at the PI level, a conservative national default fNRB value may be applied.

	<i>applicable set of eligibility criteria.</i>	<i>set of eligibility criteria at the time of verification.</i>		<i>PI1-K2C conforms to the eligibility criteria set out in this table.</i> <i>Hence this EC is met.</i>
11	<i>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).</i>	<i>New PIs will demonstrate ownership by the project proponent, from the start date of the PI.</i> <i>Project ownership, as described in Section 1.7 of this document, is applicable to all PIs included in this GP.</i>	<i>Project ownership of PI1-K2C, from the start date of the project is demonstrated in section 1.7 of this document.</i>	<i>New PI will have to demonstrate ownership by the project proponent, from the start date of the PI. against the eligibility criteria.</i> <i>PI1-K2C conforms to Project ownership and hence the eligibility criteria.</i> <i>Hence this EC is met.</i>
12	<i>Have a start date that is the same as or later than the grouped project start date.</i>	<i>New PIs will have a start date that is the same as or later than the GP start date.</i> <i>Distribution of the efficient cookstoves in the respective PIs will begin at the start date of the GP, or later.</i> <i>Distribution data including distribution dates will be collected and stored on the distribution database. The sale of the first device marks the start date.</i>	<i>The start date of PI1-K2C, evidenced as the sale of the first device in the database will be the same as the start date of the GP as per section 1.8 of this document.</i>	<i>New PI will have to have SD post the SD of the grouped project.</i> <i>The start date of PI1-K2C, also meets this criteria (refer section 1.8 of PD).</i> <i>Hence this EC is met.</i>

13	<i>Be eligible for crediting from the start date of the instance through to the end of the project crediting period (only).</i>	<i>New PIs will be eligible for crediting from the start date of the instance through to the end of the project crediting period (only). 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 9 August 2031.</i>	<i>PI1-K2C is eligible for crediting from the start date of the instance until the end of the project crediting period.</i>	<i>New PI will have to demonstrate the compliance considering the start and end date of crediting period (9 August 2031). PI1-K2C is eligible as its end of crediting period is well within the date PI1-K2C is eligible for crediting from the start date of the instance until the end of the project crediting period. Hence this EC is met.</i>
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Table Eligibility criteria for the inclusion of new project activity instances

The eligibility criteria for the inclusion of new project activity instances subsequent to the initial validation of the project, as per clause 3.5.16 of the VCS Standard v4.0 are tabulated below.

	Eligibility criteria for the inclusion of new project activity instances	How the new instances will comply	Evidence	VVB Assessment
1	Occur within one of the designated geographic areas	New project activity instances will be located within the geographic boundaries of South Africa.	a) The PI geographic boundary will be defined in the instance description document.	The ICS will be distributed within the boundary of South Africa.

	<i>specified in the project description.</i>		<i>The geographic boundary of PI1-K2C is demonstrated in section 3.3 of VCS PD b) GPS/location data captured from each end user will demonstrate the location of the project and of each PI.. c) This information will be stored in the monitoring database.</i>	<i>The GPS location will be captured. The data will be stored in the monitoring database, EC criteria is met.</i>
2	<i>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.</i>	<i>Compliance of new PIs will be evaluated exclusively against the eligibility criteria listed here for the inclusion of new PIs described in this table.</i>	<i>Compliance of new PIs with both this table 3 of eligibility criteria, plus table 2 above, will be included in the PI description and inclusion document. PI1-K2C complies with the full set of applicable eligibility criteria for the inclusion of new project activity instances in this Table 3 and in Table 2.</i>	<i>The PI will comply with the EC conditions under Table 2 and 3. EC criteria is met.</i>
3	<i>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</i>	<i>New PIs will be described 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.</i>	<i>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 surveys²⁸ and applicable provisions will be included when submitting for PI validation at verification. The evidences relevant to PI1-K2C for the local stakeholder engagements, baseline surveys and</i>	<i>There is provision to capture and store this data. The evidence of the local stakeholder engagements, baseline surveys and applicable provisions is submitted alongside this VCS - PD.</i>

²⁸ Desktop or field baseline surveys will be conducted at the PI level and will include quantitative survey on biomass fuel used for cooking and a fNRB survey in the PI boundary. Where a desktop or field baseline survey cannot be performed at the PI level, a conservative national default fNRB value may be applied.

	sampling by the validation/verification body.		applicable provisions is submitted alongside this PDD.	
4	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.	New PIs will be submitted for validation against the applicable set of eligibility criteria at the time of verification. PI1-K2C conforms to the eligibility criteria set out in this table and in Table 2.	The EC are evaluated under table 2 of VCS-PD.
5	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 this document, is applicable to all PIs included in this GP. Project ownership of PI1-K2C, from the start date of the project is demonstrated in section 1.7 of this document.	The End User agreement is signed by each end user. The End user agreement clearly states that the end use cedes the ownership right of carbon asset to project proponent./ CME. EC requirement is met.
6	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 PI1-K2C will be the same as the start date of the GP as per section 1.8 of this document.	The start date of the GP is stated as 20/08/2021. The same start date will apply to the PI1-K2C. The Start date is already assessed as appropriate by the VVB.

7	Be eligible for crediting from the start date of the instance through to the end of the project crediting period (only).	New PIs will be eligible for crediting from the start date of the instance through to the end of the project crediting period (only).	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 9 August 2031. PI1-K2C is eligible for crediting from the start date of the instance until the end of the project crediting period.	The end date of the PI is well within the end date of the GP.
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Applicability of Methodology

No	Criterion	How the new project activity instances comply	Evidence Provided and Applicability to PI1-K2C	VVB Assessment
1	Project activities shall be implemented in domestic premises or in community-based kitchens.	Each PI will distribute technology that is appropriate for domestic use to household end users or to community-based kitchens.	The project ensures the distribution of ICS to households or in community-based kitchens only. a. The manufacturer's technology description. PI1-K2C comprises the distribution of the Rocket Works' "Zama Zama" fuel efficient cookstoves which are designed specifically for domestic premises. b. Household or community-based kitchen information, including GPS coordinates and the recipient's details will be collected at point of distribution which will be kept in the PI monitoring database.	The CME will be maintaining the database of the distributed stoves and will capture these relevant details. The requirements are met for the GP. The PI disseminated the Rocket Works' "Zama Zama" fuel efficient cookstoves which are designed exclusively for household applications. Thus, the requirement of the applicability criteria and hence the EC is also met for PI.

2	The project stove shall have specified high-power thermal efficiency of at least 25% per the manufacturer's specifications and shall exclusively use woody biomass and can be single pot or multi-pot; in case of project stove replacing fossil fuel baseline stove, it shall exclusively use renewable biomass.	ICS distributed in each PI will have a thermal efficiency of at least 25% Each PI will record the baseline and project fuel use to ensure that wood fuel is the sole source of energy. End-users will be asked to state their source of energy at the point of distribution. This information will be stored in the monitoring database.	A manufacturer's technology description will certify the thermal efficiency of the ICS PI1-K2C a) The manufacturer's specification from Rocket Works for the Zama Zama rocketstove indicates a thermal efficiency of 38.3%. b) End-users will be asked to state their source of energy at the point of distribution. c) This information will be stored in the monitoring database.	The VVB has assessed that the stoves distributed in this project will have a definite high-power thermal efficiency of 38.3 %, as determined by a Water Boil Test (WBT) which is more than 25%. The end users data pertaining to the source of energy distribution will be stored in the End User Monitoring Database. Thus, the requirement of the applicability criteria and hence the EC is also met for PI
3	Both 'Projects' and 'Large Projects' can use the methodology	PIs will comply with the GP requirements	The GP is defined as a "Large Project" according to the guidelines set out in the VMR006 methodology and can therefore apply the methodology. The total ERs estimated from PI1-K2C over the crediting period is 52,75,433 tCO₂e and therefore defined as a "Large Project" according to the guidelines set out in the VMR006 methodology. The PI therefore complies with the GP requirements.	It is observed by the VVB that the total ERs projected from PI1-K2C over the crediting period is 52,75,433tCO₂e and therefore the project is defined as a "Large Scale Project" as specified in the VMR006 methodology. Thus, the requirement of the applicability criteria and hence the EC is also met for PI

4	Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	Each PI will demonstrate that Non-renewable biomass has been used in the project region since 31 December 1989.	Non-renewable biomass has been used in South Africa, the geographic boundary of the GP and the PI1-K2C region since 31 December 1989 as demonstrated below.	It is demonstrated (based on the publicly available references) that the Non-renewable biomass was used in the project region since 31 December 1989. Thus, the requirement of the applicability criteria and hence the EC is also met for PI
5	For the specific case of biomass residues processed as a fuel (e.g. briquettes, wood chips), it shall be demonstrated that: (a) It is produced using exclusively renewable biomass (more than one type of biomass may be used). (b) The consumption of the fuel should be monitored during the crediting period and (c) Energy use for renewable biomass processing (e.g. shredding and compacting in the case of briquetting) may be considered as equivalent to the upstream emissions associated with the	Not applicable. The ICS is distributed as an energy efficiency measure to replace stoves under the baseline stove scenario of burning non-renewable biomass. The baseline fuel information will be collected on the distribution data collection app at the point of distribution.	Not applicable. The ICS is distributed as an energy efficiency measure to replace stoves under the baseline stove scenario of burning non-renewable biomass. The baseline fuel information will be collected on the distribution data collection app at the point of distribution.	VVB assessed that the ICSs distributed in this project as an energy efficiency measure to replace stoves under the baseline stove scenario of burning non-renewable biomass. The technologies employed in each PI will reduce GHG emissions by demonstrably reducing the usage of non-renewable biomass at the household level. The baseline fuel information will be collected on the distribution data collection app at the point of distribution. The CME will be maintaining the database of the distributed stoves and will capture these relevant details.

	processing of the displaced fossil fuel and hence disregarded.			Thus, the requirement of the applicability criteria and hence the EC is also met for PI
6	The Project Design Document shall explain the proposed method for distribution of project devices including the method to avoid double counting of emission reductions such as unique identifications of product and end-user locations (e.g. programme logo)	In order to avoid double counting of emission reductions through the method of distribution, each cookstove has a unique identifier number and the distribution of each stove is logged onto a database which includes unique information for each recipient (i.e. National identification number, geographic coordinates, etc.). Each PI will have system for avoiding double counting with data being collected via a smartphone app (where possible), or via paper forms, including: a) Date of distribution b) A unique serial number on each technology c) GPS coordinates of the end-user (where possible) Available end-user data: name, phone number, address/physical location, ID number.	The system for avoiding double-counting in PI1-K2C is as follows: Unique distribution data is captured at the point of distribution and electronically submitted via a mobile application to the monitoring database. The unique distribution data is stored in the cloud-based monitoring database, including: a) Date of distribution b) A unique serial number on each technology c) GPS coordinates of the end-user (where possible) d) Available end-user data: name, phone number, address/physical location, ID number e) All data will be backed up physically in case of outage.	VVB assessed that each cookstove has a unique identifier number and the distribution of each stove is logged onto a database which includes unique information for each recipient. During the remote assessment the VVB that the unique distribution data is stored in the cloud-based monitoring database, including: Date of distribution A unique serial number on each technology GPS coordinates of the end-user (where possible) Available end-user data: name, phone number, address/physical location, ID number The CME also confirmed that all data will be backed up physically in case of outage. Thus, the requirement of the applicability criteria and hence the EC is also met for PI

		<i>All data will be backed up physically in case of outage</i>		
7	<i>The Project Design Document shall also explain how the proposed procedures prevent double counting of emission reductions, for example to avoid that project stove manufacturers, wholesale providers or others claim credit for emission reductions from the project devices.</i>	<i>The End User Agreement confirms that the ownership rights of the ER/VCUs generated by the PI reside with the CME. The signature of each end user confirming their understanding of this agreement will be collected at the point of distribution. The End User Agreement will be in English and translated into a local language where required. If necessary, it will be read out to the End User.</i> <i>Each ICS will have a serial number, made to order by the manufacturer, to uniquely identify it. All rights to distribute the delivered stoves and claim the resultant emissions reductions belong to the PP.</i> <i>The GP will not include any PI that has been rejected by another GP, or CPA-DDs of any other GHG programs.</i>	<i>End users will be asked to sign the End User Agreement and this information will be stored in the monitoring database.</i> <i>Each PI will include a statement on the uniqueness of the Project and by listing other similar activities (from other GHG programme registries) that are taking place within the project boundary to demonstrate its uniqueness.</i> <i>PI1-K2C is a unique project in the Kruger to Canyons region spanning the Limpopo and Mpumalanga Provinces. A list of projects within or close to the PI boundary is submitted with this PDD.</i>	<i>End User Agreement form is being signed with the end user by TASC while distributing the stoves and same will be stored for monitoring records. It is evident from the sample form that the stove distributed has an unique serial number which will avoid double counting.</i> <i>Thus, the requirement of the applicability criteria and hence the EC is also met for PI</i>

		<i>Each PI will include a statement on the uniqueness of the Project and by listing other similar activities (from other GHG programme registries) that are taking place within the project boundary to demonstrate its uniqueness.</i> <i>PI1-K2C is a unique project in the Kruger to Canyons region spanning the Limpopo and Mpumalanga Provinces. A list of projects within or close to the PI boundary is submitted to the VVB with this PDD.</i>		
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Applicability of Tool

TOOL Applicability Criterion	Conformance to applicability condition	Assessment
<i>DNAs to submit region- or country-specific default fNRB values, following the procedures for development, revision, clarification and update of standardized baselines (SB procedures); or</i>	<i>N/A</i>	<i>Presently a calculated value is applied.</i>

<i>Project participants²⁹ to calculate project- or PoA-specific f_{NRB} values</i>	<i>The tool was used to determine GP Instance-specific f_{NRB} values.</i>	<i>Tool 30 is applied to evaluate the f_{NRB}</i>
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²⁹ In context of this methodological tool, the term project participant also includes coordinating and managing entities for a PoA.

APPENDIX 4 LIST OF FINDINGS ON POA AND PROJECT INSTANCE

CL ID	01	Section no.	1.11	Date : 31/05/2021
Description of CL				
Section 1.1 of Grouped VCD-PD read with requirements under paragraph 2.2.1 of VCS Standard v4.1 - The statement that, “Household cooking practices in South Africa include the use of electric stoves (electricity generated through coal combustion), gas, paraffin, coal and wood”, then how the project will replace the open-fire wood-fueled cooking methods only and thus, how the baseline is established as open fire cooking using wood fuel. - The VCS-PD applied the VMR0006 (min qualifying efficiency 25 %) and also refers to AMS-II.G. (min qualifying efficiency 20 %). A clear statement that the conservative value is applied is missing. Also, clarity is missing that the indicated thermal efficiency is “high-power thermal efficiency”.				
CME’s response				Date : 08/07/2021
- These are the different technologies commonly used for cooking in South Africa. The project focuses on households where the cooking was only done in the baseline on open, wood fires. This has been clarified in the PDD. - Reference to the AMS-II-G methodology has been removed as the GP will use only the VMR0006 methodology. The high-power thermal efficiency, determined by a Water Boil Test (WBT) as required in the VMR0006 methodology has been clarified.				
Documentation provided by CME				
<i>Revised VCS-PD, Ver 2.0, dated 15-July-2021</i>				
DOE assessment				Date: 21/07/2021
Justification is accepted. The VCS-PD no more refers to efficiency of 20 %, the qualifying efficiency for the ICS is updated to 25 % which is in line with VMR0006. CL is CLOSED. CL 01 has been CLOSED.				

CL ID	02	Section no.	1.4	Date : 31/05/2021
Description of CL				
Eligibility criteria 1g – Clarification is requested in the agreement will specifically ask the end user to cede the VCU rights to Project implementer. Statement is not very transparent. How it will be ensured that <i>project has not sought, nor received another form of GHG-related environmental credit</i>. It is unclear what provisions are in place for the retrieval of the app and form related confirmations.				
CME’s response				Date : 08/07/2021

Information added to clarify that the End User Agreement will confirm that the ER/VCU ownership rights generated by the PI belong with the CME. The signature of each end user confirming their understanding of this agreement will be collected at the point of distribution. The agreement will be in English and translated into a local language where required. If necessary, it will be read out to the End User.

Each ICS will have a serial number made to order by the manufacturer, to uniquely identify it. All rights to distribute the delivered stoves and claim the resultant emission reductions belong to the PP.

Information added to clarify that this project will not include any PI that has been rejected by another GP or CPA-DD of any other GHG programs.

Each PI will include a statement on the uniqueness of the Project and list other similar activities (from other GHG programme registries) that are taking place within the project boundary to demonstrate its uniqueness.

Documentation provided by CME

Revised VCS-PD, Ver 2.0, dated 15-July-2021

DOE assessment

Date: 21/07/2021

Sample cookstove end user agreement is provided by the PP to ensure that that this project will confirm that the ER/VCU ownership rights generated by the PI belong with the CME. It also included the unique serial number of cookstove to uniquely identify it. Also, the ODK distribution workflow description document and ONA database screenshots are submitted.

The Eligibility condition 1g is validated to confirm that

- project will not include any PI that has been rejected by another GP or CPA-DD of any other GHG programs
- Each PI will include a statement on the uniqueness of the Project and list other similar activities (from other GHG programme registries) that are taking place within the project boundary to demonstrate its uniqueness.

Issue is addressed, CL 02 has been CLOSED.

CL ID	03	Section no.	2.3	Date :	31/05/2021
Description of CL					
The section 2.3 of Grouped VCD-PD lacks traceable references to back the statement “No negative environmental impacts have been identified for the project and an environmental impact assessment (EIA) is not required for the project”					
CME's response				Date :	08/07/2021
References added					
Documentation provided by CME					
<i>Revised VCS-PD, Ver 2.0, dated 15-July-2021</i>					
DOE assessment				Date:	21/07/2021

Following reference are added in the updated PDD:

1 Department of Water and Environmental Affairs (South Africa). 2010. National Environmental Management Act, 1998 (ACT NO. 107 of 1998): Listing Notice 1: List of activities and competent authorities identified in terms of sections 24(2) and 24D. (Notice R.544). Government Gazette, 33306:80, 18 June

2 Department of Water and Environmental Affairs (South Africa). 2010. National Environmental Management Act, 1998 (ACT NO. 107 of 1998): Listing Notice 3: List of activities and competent authorities identified in terms of sections 24(2) and 24D. (Notice R.546). Government Gazette, 33306:116, 18 June

3 Department of Environmental Affairs and Tourism (South Africa). 2006. National Environmental Management Act, 1998 (ACT NO. 107 of 1998): List of activities and competent authorities identified in terms of sections 24 and 24D of the national environmental management act, 1998. (Notice R.387). Government Gazette, 28753:165, 21 April.

CL 03 is CLOSED.

CL ID	04	Section no.	5.2	Date : 31/05/2021
Description of CL				
Section 5.2 of the Grouped VCD-PD				
The parameter “ η_{old} ” states options b), c) and d) under row “Description of measurement methods and procedures to be applied”, however it is unclear how these provisions will be implemented on the Project Instance level to determine and utilize baseline stove efficiencies.				
CME’s response				Date : 08/07/2021
In most cases, PIs will use option A under the methodology, but options B-D may be utilized if required, as allowed by the methodology.				
Documentation provided by CME				
<i>Revised VCS-PD, Ver 2.0, dated 15-July-2021</i>				
DOE assessment				Date: 21/07/2021
Explanation is accepted. CL 04 has been CLOSED.				

Table 1.CARs from this validation

CAR ID	01	Section no.	1.1	Date : 31/05/2021
Description of CAR				
Below points are raised based on the evaluation of the VCS-PD against the VCS-PD guidelines				
Section 1.1				

Following requirement of the of Grouped VCD-PD guidance is not fulfilled “summary description of the technologies/measures to be implemented by the project”.

- Policy/ measure of the Grouped activity
- Confirmation that it is voluntary activity
- Who will disseminate the stove?
- How will the stove reach to the end users?
- How awareness for the stove use will be created?
- Who will be project operator the CME or the distributing organization?
- Who will be the ultimate owner of the VER’s?
- Who and how the project implementation be tracked?

CME’s response

Date : 08/07/2021

PDD was updated to include:

- The distribution of cookstoves is not mandated by South African law; and,
- the GP is a voluntary initiative.
- The Coordinating/Managing Entity (CME) of the GP is TASC SA (Pty) Ltd. (“TASC”) and the ICS will be distributed by Project Instance (“PI”) Implementers, contracted by TASC specifically for this purpose. PI Implementers will be selected by TASC for their ability to handle the logistics of ICS distribution (storage, transportation, management etc.), but also
- for their ability to engage with local communities and identify suitable ICS recipients.
- Communities and individual recipients will be identified via an ongoing series of community sensitization meetings, which will introduce (amongst other things) the GP, the technology, and their impact.
- Recipients will voluntarily participate in the GP and the relevant PI, and confirm this via agreeing to an End User Agreement, which also confirms that any emissions reductions generated under the GP/PI are owned by TASC.
- Certain data (“Distribution Data”) will be collected from ICS recipients using a dedicated smartphone app and cloud-based data management system, which allows TASC to uniquely identify each ICS and this will include (where possible): GPS locations of households, contact details, stove serial numbers, data of distribution etc.

Documentation provided by CME

Revised VCS-PD, Ver 2.0, dated 15-July-2021

DOE assessment

Date: 21/07/2021

Section 1.1 of the VCS-PD is updated in line with the VCS-PD guidelines.

CAR 01 has been CLOSED

CAR ID	02	Section no.	1.3	Date : 31/05/2021
Description of CAR				
The section 1.3 of the of Grouped VCD-PD is not exactly reproducing the applicability conditions of the methodologies. The section also lacks the substantiation pertaining to the conformance with the applicability conditions. 1. Capturing the Methodological Requirements - The statement of the applied methodology <i>"Methodology for Installation of High Efficiency Firewood Cookstoves (VMR0006)"</i> are not exactly reproduced 2. Conformance with applicability conditions -The description of how the project instances will follow the applicability is not explained in detail. 3. Same finding applied for AMS-II.G. version 11.1 para 8 and 9.				
CME's response				Date : 08/07/2021
Section 1.3 of the PDD was updated to describe the eligibility conditions of the VCS Standard and the applicability thereof on the GP. Section 1.3 of the PD does not require that methodological requirement compliance be demonstrated. This is to be done in Section 3. Reference to AMS-II.G. has been removed throughout the document unless when mentioned in context with the VMR0006 methodology.				
Documentation provided by CME				
<i>Revised VCS-PD, Ver 2.0, dated 15-July-2021</i>				
DOE assessment				Date: 21/07/2021
Please refer below assessment • The VT identified that the eligibility condition is updated with respect to requirements of methodology, however the relevant provisions/ requirements that shall be met at the PI level is not stated. The meth conditions are still not reproduced. Finding has been kept OPEN. • Same as above • Issue lost relevance as AMS-II.G. is taken out from the VCS-PD. Except where it is applied as per applied methodology VMR0006.				
CME's response				Date : 30/07/2021
• Section 1.3 Project Eligibility was updated to reflect the eligibility of the GP with regards to the VCS Standard eligibility requirements. As mentioned in the PDD filling template, Section 1,3 pertains only to - <i>"Describe and justify how the project is eligible under the scope of the VCS Program". Details of meeting the methodology applicability are stated in Section 3.2. AS per the template filling guidance, meth applicability is required to be met in Section 3.2 (Demonstrate and justify how the project activity(s) meets each of the applicability conditions of the methodology(s), and tools (where applicable) applied by the project. Address each applicability condition separately.)</i> • The methodology and new project instance inclusion eligibility criteria is reflected in Section 1.4.				

No further change made. This is as per the Template filling guidelines.	
DOE assessment	Date: 05/08/2021
Argument Accepted. The eligibility criteria is also indicating which possible supportive documents will be provided at the PI level for demonstration of eligibility. Still this requirement is not complied under the section 1.4. Finding is KEPT OPEN	
CME's response	Date : 12/08/2021
Applicability conditions of the methodology in section 3.2 have been updated to include the PI level applicability.	
DOE assessment	Date: 15/09/2021
The section 3.2 of the PDD is assessed. The VVB confirms that the possible (indicative) provisions for the inclusion stage are included. Finding has been CLOSED.	

CAR ID	03	Section no.	1.4	Date : 31/05/2021
Description of CAR				
Below requirements are not captured as part of the eligibility criteria, section 1.4 of Grouped VCD-PD read with CDM project standard for programmes of activities/ ^{PS} /, para 124				
(c) Conditions to confirm that CPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered. The EC should clearly state that Grouped Project will not include PI which are rejected from other Grouped projects or CPA-DD's of any other GHG programs (d) Specification of the technology/measure , <u>such as the level and type of service, as well as performance specification based on, inter alia, testing/certification</u>; (installed capacity (in kW), size or dimensions, fixed/portable operation, and other key design features that make the project cook stoves efficient, would be appropriate; however, only indicating that all cook stoves will have an efficiency X% would not be sufficient, service shall be defined in comparison with the baseline system being replaced) (e) Conditions to check the start dates of PIs through documentary evidence along with a check that start date of PI's is not prior to Start date of VCS grouped project; (i) The PoA/grouped VCS project-specific requirements, including any conditions related to undertaking local stakeholder consultation and environmental impact analysis. (j) Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance. (l) If the generic CPA applies sampling for the determination of parameter values for calculating GHG emission reductions or net anthropogenic GHG removals, conditions related to sampling requirements for the PoA in accordance with the "Standard: Sampling and surveys for CDM project activities and programme of activities"; - Formal induction of PI's onto Grouped Project with help of agreements / associated documents - Confirmation at PI level that only new ICS will be included into the PI - Response/ write-up is missing under eligibility criteria 1 under column "Evidence"				

- Exact requirement of methodology is not captured under eligibility criteria 1c - Confirmation at PI level that the end date of the PI will not exceed the crediting period of Grouped Project - Eligibility Criteria 5 - The EC is not complete as it is not complete statement. The exact requirement should be re-produced here otherwise the requirements are not clear. <i>"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."</i> - Eligibility Criteria 6 – The statement is incomplete and not adequate with regards to the clear referencing of the tool e.g. <i>"Project Instances will apply CDM Tool 19 version 09.0..."</i>	
CME's response	Date : 08/07/2021
Please note that the eligibility conditions cover what is stated in Section 3.5.15 of the VCS Standard v4.1. The VCS Standard v4.1 does not refer to the CDM standard. Reference to AMS-II.G. in the PDD has been removed. Section 1.4, Eligibility criteria updated.	
Documentation provided by CME	
<i>Revised VCS-PD, Ver 2.0, dated 15-July-2021</i>	
DOE assessment	Date: 21/07/2021
c) The EC 1g is updated, finding is CLOSED d) The EC 6 is updated to clarify that there is no upper limit to the product, however the same is restricted based on the application of the additionality demonstration requirements, finding is CLOSED e) The eligibility criteria are not appropriately updated w.r.t the condition that "start date of PI's is not prior to Start date of VCS grouped project", finding is kept open i) The eligibility criteria are not appropriately updated w.r.t the condition pertaining to <i>"conditions related to undertaking local stakeholder consultation and environmental impact analysis" and corresponding provisions as applicable</i>, finding is kept open j) No condition is apparent pertaining to ODA, finding is kept open l) No response is apparent, Eligibility criteria 5 is not appropriately updated. Finding is kept OPEN	
CME's response	Date : 30/07/2021
e) Eligibility criteria updated to demonstrate compliance with clause 3.5.16 of the VCS Standard, which covers conditions relating to the PI and GP start dates. It has been stated that the PI start date will not be before the GP start date and this can be confirmed through the project database which has details of distribution date of all devices including the first device in a PI (which marks the start date of the PI). (i) Eligibility criteria updated to state that evidence of relevant information such as local stakeholder engagements, baseline surveys and applicable provisions will be included when submitting for PI validation at verification. Sections 3.5.15 and 3.5.16 on page 22 and 23 of the VCS Standard version 4 does not include the condition pertaining to <i>"conditions related to undertaking local stakeholder consultation and environmental impact analysis" and corresponding provisions as applicable</i>. All reference to the CDM Methodology has been removed from the PDD.	

(j) The point related to ODA is not covered or required according to the VCS Standard. Reference to the CDM Methodology has been removed throughout the PDD.	
l) EC 5 has now been updated to include all the additionality conditions as given in Section 7(page 8/9) of the applied methodology VMR0006 .	
DOE assessment	Date: 05/08/2021
e) Eligibility criteria is appropriately updated to demonstrate compliance with clause 3.5.16 of the VCS Standard (condition relating to the PI and GP start dates). It is now ensured that the PI start date will not be before the GP start. Finding is CLOSED.	
(i) Eligibility criteria is appropriately updated regarding evidencing the relevant information such as local stakeholder engagements, baseline surveys and applicable provisions while submitting the PI for validation/ verification. The VVB acknowledges that all redundant references to the CDM Methodology have been appropriately removed from the PDD. Finding is CLOSED.	
(j) Accepted, since the ODA is not covered or required according to the VCS Standard, however a declaration is requested from the CME that ODA will not be diverted for the PI implementation.	
l) EC 5 has been appropriately updated to include all the additionality conditions as given in Section 7(page 8/9) of the applied methodology VMR0006. Finding is CLOSED.	
CME's response	Date : 12/08/2021
Declaration added under EC5 stating that "PIs under the GP will not result in the diversion of official development assistance".	
DOE assessment	Date: 15/09/2021
The condition pertaining to ODA is now included under EC5 compliance for PI level. Finding has been CLOSED.	

CAR ID	04	Section no.	1.11, 1.17, 3.1, 3.2	Date : 31/05/2021
Description of CAR				
- The section 1.11 of Grouped VCD-PD refers to the incorrect methodological reference AMS-II.G. v11.1 Paragraph 26b, Option 2) to the KPT. Appropriate corrections are requested - The section 1.17 of Grouped VCD-PD refers to the internally inconsistent version of AMS-II.G - Section 3.1 of Grouped VCD-PD does not provide the traceable web reference (web links) for - CDM Guideline: Sampling and surveys for CDM project activities and programmes of activities, v4 - CDM Tool 19: Demonstration of additionality of microscale project activities, v9				

- Section 3.2 of Grouped VCD-PD - The listed references to demonstrate applicability criteria – “Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics” are requested - The section 3.2 of provides the information of the gases are included along with the justification. Inconsistency is observed between the column “Included?” and “Justification/Explanation”.	
CME's response	Date : 08/07/2021
- Reference to AMS-II.G.is removed throughout the PDD. - Web reference to the CDM Guideline: Sampling and surveys for CDM project activities and programmes of activities, v4 and to the CDM Tool 19: Demonstration of additionality of microscale project activities, v9 - Section 3.2 information on the gases included updated.	
Documentation provided by CME	
Literature referenced in Section 3.2: - Williams A.T. 1986. The potential for the production of energy from biomass in South Africa (Master's dissertation, University of Cape Town) - Durning A., 1991: Saving the forests: what will it take? Worldwatch Paper 117. Worldwatch Institute, Washington DC. ISBN-13: 978-1878071187 - Wessels, K.J., Colgan, M.S., Erasmus, B.F.N., Asner, G.P., Twine, W.C., Mathieu, R., Van Aardt, J.A.N., Fisher, J.T. & Smit, I.P.J. 2013. Unsustainable fuelwood extraction from South African savannas. Environmental Research Letters. 8 014007.) doi:10.1088/1748-9326/8/1/014007 - Energy Sector Management Assistance Program (ESMAP). 2020. The State of Access to Modern Energy Cooking Services. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO - Swemmer, A. M., Mashele, M. and Ndhlovu, P. D. (2019) ‘Evidence for ecological sustainability of fuelwood harvesting at a rural village in South Africa’, Regional Environmental Change, 19(2), p. 403. doi: 10.1007/s10113-018-1402-y - Revised VCS-PD, Ver 2.0, dated 15-July-2021	
DOE assessment	Date: 21/07/2021
- The section 1.11 of Grouped VCD-PD is appropriately corrected as the reference of AMS-II.G. is removed. - The section 1.17 of Grouped VCD-PD is corrected as the reference of AMS-II.G. is removed. - Section 3.1 of Grouped VCD-PD is updated with the traceable web references. - Section 3.2 of Grouped VCD-PD is appropriately updated. - The section 3.2 of Grouped VCD-PD now provides the information of the gases which are included along with the justification. Finding has been CLOSED	

CAR ID	05	Section no.	2.4, 5.1, 5.2, 5.3.1	Date : 31/05/2021
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Description of CAR	
- The section 2.4 of the Grouped VCD-PD is not complete with regards to requirements and explanation related to public comments under proposed grouped project. - Ex-ante parameters -The basis of the value of the parameter Bold , f_{nrb,b,y} , EF_{WF,CO2} , EF_{WF,non-CO2} , η_p , is not traceable under section 5.1 of the Grouped VCD-PD and thus a proper justification with objective evidence is required to be presented. - Monitoring parameters Section 5.2 of the Grouped VCD-PD – - Below parameters are missing N_{d,HH} Discount factor Bold, HH - Information regarding the sample size and the confidence precision is missing for parameters - N_{y,,}, Furthermore the row “Calculation method” belongs to row “Comments”. - The information under row “Description of measurement methods and procedures to be applied” for parameter “η_{new,,}” is inconsistent with section 4 of the Grouped VCD-PD. As per section 4.4, the first 04 methods to determine the η_{new,,} is missing. Clarification/ correction is requested. Transparency is also missing for the applied “Frequency of monitoring/recording”. μ_y – the statements of the methodology are reproduced by omitting the associated guidance in form of footnotes are missing. Furthermore there is internal inconsistency in the survey periodicity between rows “Description of measurement methods and procedures to be applied” and “QA/QC procedures to be applied”. - Sampling Plan: Section 5.3.1 of the Grouped VCD-PD lacks the formulas provided as per Guideline: Sampling and surveys for CDM project activities and programme of activities v4.	
CME's response	Date : 08/07/2021
- Public comment period has now closed and Section 2.4 has been updated to include the public comments received. - References for the parameters: Bold , f_{nrb,b,y} , EF_{WF,CO2} , EF_{WF,non-CO2} , η_p Section 5.1 has been updated and substantiating evidence is included in documents provided. - The parameters (N_{d,HH} , Discount factor, Bold, HH) are not included in the monitored parameters according to the VMRO006 methodology. - Information regarding the sample size and the confidence precision for parameters - N_{y,,}, has been updated as 90/10. The row “Calculation method” has been corrected to be in row “Comments”. - Ex-ante values will be calculated using the latest version of the published WBT protocol and as per the parameter steps 1-4. - As per parameter step 5: Project stoves will be measured for efficiency ex-ante and efficiency loss will be calculated as per equation 4 of the methodology, therefore this parameter will not be monitored. - Frequency of monitoring/recording η_{new,,}, has been updated to “Annually”.	

6. Footnotes in <i>μy</i> methodology statements added and inconsistency improved.		
7. Formulas included in the Sampling Plan.		
Documentation provided by CME		
- Desktop baseline survey ($f_{nrb,b,y}$) - Field baseline survey for PI1-K2C (B_{old})		
DOE assessment		Date: 21/07/2021
1. In response to the stakeholder findings, a. The CME has proposed that baseline surveys will be conducted at PI level. The statement is reproduced as below (section 2.4, public comment) <i>“Therefore, a desktop and/or field baseline survey will be conducted at PI level, which includes a baseline household wood fuel usage and fraction of non-renewable biomass survey.”</i>, To qualify the implementation of this statement; corresponding action is not appearing as eligibility criteria. Finding is kept OPEN. b. Same finding applies to the CME statement <i>“The climate change mitigation potential of this GP will therefore be justified and confirmed at the PI level”</i>. To qualify the implementation of this statement; corresponding action is not appearing as eligibility criteria. Finding is kept OPEN. 2. The methodology is reviewed and it is confirmed that the parameters “EF_{WF,CO2}” and “EF_{WF,non-CO2}” are reported as default from the applied methodology VMR0006. The parameters		
No	Parameter	Assessment
1.	B _{old}	The parameter is derived based on the Field Baseline Report – Kruger 2 Canyons Fuel Efficient Cooking in South Africa, dated 30 March 2021, by L. Kok, PhD, Carbon Projects Development Manager TASC SA. The value is derived based on the study conducted at Kruger to Canyons Biosphere Reserve (K2C) within the Mpumalanga- and Limpopo Provinces in South Africa. The number of households, population and average house hold size was considered. The sample size of 271 was derived based on the total population of 1211015, with expected mean of 20, SD of 20, Z-multiplier 1.645 and relative precision of 10 %. The KPT Field Baseline Survey was performed and the Weighted Average (t/house/year) was determined as 5.49. The same value is consistently applied for sample indicative calculation at the VCS-PD. The row “Comments” does not mention about charcoal conversion factor for baseline charcoal stoves.
2.	$f_{nrb,b,y}$	The VCS-PD refers to the CDM TOOL 30 “Calculation of the fraction of non-renewable biomass” v3.0 for PI1-K2C, for the stated indicative value, however the value stated in the entire VCS-PD is 0.89 compared to the 0.81 as derived under the submitted worksheet

		"6_2021-03-31 Values for baseline and fNRB calculation v1_Promethium", tab "K2C fNRB model".
3.	EF _{WF,CO2}	Ok, consistent with the equation 2 of applied methodology page 11
4.	EF _{WF,non-CO2,}	Ok, consistent with the equation 2 of applied methodology page 11
5.	η_p	The efficiency is verified form the submitted document "2_130213 Rocket Works SeTAR Emissions Test Report v1.pdf". The submitted document is assessment performed by the University of Johannesburg, SeTAR Centre, to determine the stove "Thermal efficiency and emissions interim test report for rocket Works wood stove" with the test period 11-12 February 2013. The VT confirms that the applied value corresponds accurately with the submitted test results.

3. Accepted, but what is the status of the parameters? Ex-ante fixed, monitored is still not clear from the submitted VCS-PD.

4. The row "Calculation method" has been corrected to be in row "Comments" with respect to the sampling requirements.

5. All the options for determination are now included, the frequency is updated to annual (which is in line with the applied methodology)

6. The footnote is restored in line with the applied methodology and the frequency is appropriately updated to at least once in 02 years (in line with the methodology)

7. The calculations for the determination of sampling are included under the VCS-PD. The same are compared and deemed as consistent with the Guideline: Sampling and surveys for CDM project activities and programme of activities v4.

CME's response	Date : 08/07/2021
1) a) Eligibility criteria updated to include corresponding evidence at point of PI verification. b) Wording of the response to Public Comment changed to "Each PI will be assessed for compliance with the eligibility criteria listed in Section 1.4 above" 2) 1) B _{old} comments section update to include charcoal conversion factor. 2) New document submitted: "2021-03-31 Values for baseline and fNRB calculation v1_Promethium_Field values". Worksheet includes field baseline wood fuel usage in fNRB calculations versus previously submitted worksheet that only included the desktop baseline survey values. 3) The value N _{D,HH} is not applicable since the CDM Methodology has been removed from the PDD. The Discount Factor is fixed as per Equation 2 of the VMR0006 Methodology. B _{old} will be determined ex-ante at the PI level as demonstrated in section 5.1 of the PDD.	
DOE assessment	Date : 08/07/2021

1)

- a. It is not clear which eligibility criteria is updated. Furthermore, still the EC 4, reiterates that “*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 in this Project Description.*” And section 3.4 states “*Individual baseline emissions calculations will be defined in each Project Instance Document.*” The above CME response is not clear to the VVB. Requesting further clarification.
- b. The CME has *changed* its response and as per new response to the stakeholder stated that “Due to the design of the efficient cookstove, the GP/PIs offer the benefit that “chief culprit encroacher species” such as the *Dichrostachys cinerea* (page 3), which is prevalent in two of the proposed PIs, can now be harvested as fuelwood. This species, for example, has a high calorific value and burns well, but is rarely harvested for open-fire cooking because of the small size of its branches³⁰³¹. These small branches will, however, work well in the ICS, and ICS users will be encouraged to harvest these bush encroachment species.” How this provision is ensured at the PI level. Further clarification is requested.

2.

1. Accepted
2. Please submit that new document

3. Accepted. The changes were checked and deemed as appropriate.

CME's response

Date : 08/07/2021

- Footnote added to Eligibility criteria 3, stating: “Desktop or field baseline surveys will be conducted at the PI level and will include quantitative survey on biomass fuel used for cooking and a fNRB survey in the PI boundary. Where a desktop or field baseline survey cannot be performed at the PI level, a conservative national default fNRB value may be applied”
- This response has been revised again, as certain sections are not entirely relevant to the issue raised by the commenter. The key point to make is that, although the GP boundary is national, each PI boundary is drawn at a sub-national, regional level (see PI1-K2C). The response is now clear that the baseline parameter values are derived from PI-level studies (i.e., from sub-national, regional data) commissioned by the CME. This is the approach that the commenter themselves suggests (“A response may be that the project will only focus on certain areas”), so this should satisfy the concerns raised about the project boundary and national-level emissions accounting within the project.

³⁰ <https://www.feedipedia.org/node/298>

³¹ Pedrosa, D.T., Kaltschmitt, M. *Dichrostachys cinerea* as a possible energy crop—facts and figures. *Biomass Conv. Bioref.* **2**, 41–51 (2012). <https://doi.org/10.1007/s13399-011-0026-y>

Document “2021-03-31 Values for baseline and fNRB calculation v1_Promethium_Field baseline values” submitted.	
DOE assessment	Date: 15/09/2021
1) a. Accepted, please refer below raised issues b. The methodology of selection of the focus area / region is not explained. Relevant information is missing for the included PI. Relevant explanation line with the requirements of VCS Standard, version 4.1 is requested - Grouped projects shall have one or more clearly defined geographic areas within which project activity instances may be developed. Such geographic areas shall be defined using geodetic polygons as set out in Section 3.10 below. 3.5.11 The baseline scenario for a project activity shall be determined for each designated geographic area, in accordance with the methodology applied to the project. Where a single baseline scenario cannot be determined for a project activity over the entirety of a geographic area, the geographic area shall be redefined or divided such that a single baseline scenario can be determined for the revised geographic area or areas. 3.5.12 The additionality of the initial project activity instances shall be demonstrated for each designated geographic area, in accordance with the methodology applied to the project. Where the additionality of the initial project activity instances within a particular geographic area cannot be demonstrated for the entirety of that geographic area, the geographic area shall be redefined or divided such that the additionality of the instances occurring in the revised geographic area or areas can be demonstrated. 3.5.13 Where factors relevant to the determination of the baseline scenario or demonstration of additionality require assessment across a given area, the area shall be, at a minimum, the grouped project geographic area. Examples of such factors include, inter alia, common practice; laws, statutes, regulatory frameworks or policies relevant to demonstration of regulatory surplus; determination of regional grid emission factors; and historical deforestation and degradation rates. Finding is kept OPEN 2) The assessment of the fNRB calculation is verified and deemed as appropriate. Finding is CLOSED.	
CME's response	Date : 05/10/2021
The methodology for defining the GP and PI Project Boundaries is clearly explained in Sections 1.12 and 3.3 of the PDD. To respond to each point: The Project Boundary for both the GP and PIs is defined (as per the AMS-II.G. methodology) as: the physical, geographical site of the efficient devices that utilize biomass. The Project Boundary for the Grouped Project is the geographic borders of the Republic of South Africa. The Project Boundary for each Project Instance will be defined within the geographic borders of the Republic of South Africa. The CME has identified several distinct climatic regions within South Africa which guide the definition of the individual PI Project Boundaries (see Figure 1.2). PI Project Boundaries will be defined both in terms of the climactic region(s) and a specifically described geographical area – see Section 3.3 for a clear example for PI1.	

- The baseline scenario is clearly defined for each PI; this is to understand the conditions prevalent within each specific PI as opposed to across the GP Project Boundary. South Africa is a very large and diverse country making a single baseline scenario for the GP not appropriate. By defining a baseline scenario for each PI, the CME is providing a more accurate picture of the specific conditions within each PI Project Boundary. Parameter values will therefore be identified at the PI-level. Section 4.4 has been updated accordingly.
- The Additionality of the GP and each individual PI is determined by using the Activity Method, outlined in the applied methodology, which is clearly defined in Section 3.5. of the PDD. The GP and each PI included are clearly shown to be automatically additional in accordance with the methodology.
- As above, Section 4.4 has been revised to indicate that the baseline scenario will be established at the PI-level. For future PIs, additional studies for parameters $B_{old,i}$, $f_{NRB,b,y}$ and η_p will be completed.

DOE assessment

The sections 1.12, 3.3, 3.5 and 4.4 are reviewed. The VVB noted that the Project Boundary for both the GP and PIs is defined (as per the AMS-II.G. methodology). Accordingly the Project Boundary for each Project Instance will be defined within the geographic borders of the Republic of South Africa based on defined criteria. The additionality of the PI is also defined for each PI separately and baseline scenario is defined under section 4.4. Thus, the finding CME has addressed the finding raised by the VVB. Finding has been CLOSED.

CAR ID	06	Section no.	Date: 31/05/2021
Description of CAR			
Below listed documents are requested			
No	Document Requirement	Explanatory note (as applicable)	
1.	Household cooking practices in South Africa include the use of electric stoves (electricity generated through coal combustion), gas, paraffin, coal and wood.	Evidence is requested for this statement	
2.	Technical Specifications of the Cookstoves under project activity	Proof for Thermal Efficiency of the cookstoves is required to ensure that the proposed stoves as determined to be included are having efficiency as per methodological requirements	
3.	The manufacturer's technology description.	To ascertain the Tech details example Rocket stove etc	
4.	Format of monitoring database containing unique household end user information / <i>Format for data</i>	To ascertain that there is appropriate formats for the PI level	

	collection via smartphone app or survey form including: d) Date of distribution e) A unique serial number on each technology f) GPS coordinates of the end user (where possible) g) Available end user data: name, phone number, address/physical location, ID number - Sales database - Sales receipts	
5.	Publicly available studies will be used to ascertain biomass usage in the Project Instance design document - (Non-renewable biomass has been used in the project region since 31 December 1989) Evidence that non-renewable biomass has been used in the project area since 1989 - Williams, A.T., 1986. The potential for the production of energy from biomass in South Africa (Master's dissertation, University of Cape Town). - During A., 1991: Saving the forests: what will it take? World watch Paper 117. World watch Institute, Washington DC. ISBN-13: 978-1878071187 - Wessels, K.J., Colgan, M.S., Erasmus, B.F.N., Asner, G.P., Twine, W.C., Mathieu, R., Van Aardt, J.A.N., Fisher, J.T. & Smit, I.P.J. 2013. Unsustainable fuelwood extraction from South African savannas. Environmental Research Letters. 8 014007) doi:10.1088/1748-9326/8/1/014007 - Energy Sector Management Assistance Program (ESMAP). 2020. The State of Access to Modern Energy Cooking Services. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO - Swemmer, A. M., Mashele, M. and Ndhlovu, P. D. (2019) 'Evidence for ecological sustainability of fuelwood harvesting at a rural village in South Africa', Regional Environmental Change, 19(2), p. 403. doi: 10.1007/s10113-018-1402-y	Methodological requirement
6.	List of baseline and project fuels used	This will be ascertained from the technical details of the ICS and verify that the input fuel is wood

7.	Signed agreement (in English or translated in local language) with the end user confirming the ownership rights ER/VCUs generated by the PI	Methodological requirement and Eligibility criteria requirement
8.	- List of South African government programmes or their policy for cookstoves - Policy document by the Grouped project implementer - that the new Project activity is installed within the geographic borders of South Africa	List of the Government Programmes if any
9.	Formatted ER Calculations worksheet	To assess the stated value of emission reductions
10.	- Sample format of survey study - Format of the Survey questioner - Worksheet to determine the sample size	Sampling Requirement
11.	Double Accounting: Snapshot of the App which is designed to avoid double accounting	EC requirements
12.	- Format induction of PI's into Grouped Project with help of agreements / associated documents - Confirmation at PI level that it is not rejected from other Grouped projects or CPA-DD's of any other GHG programs - Confirmation at PI level that only new ICS will be included into the PI - Confirmation at PI level that the end date of the PI will not exceed the crediting period of Grouped Project	
CME's response		Date: 08/07/2021
Documents submitted to the VVB: - Makonese et al. 2017 130213 RocketWorks SeTAR Emissions Test Report v1 - Testing Report BECT Moz RW Zama Zama - The ODK Collect App will be utilized for distribution data collection, with ONA database and Ocellics Powersolve database management system being developed for the project and data management. The ODK distribution workflow description document and ONA database screenshots are submitted. - Williams, A.T., 1986. The potential for the production of energy from biomass in South Africa (Master's dissertation, University of Cape Town). <i>Durning A., 1991: Saving the forests: what will it take? World watch Paper 117. World watch Institute, Washington DC. ISBN-13: 978-1878071187</i>		

- reference in PDD changed to Dovie, D.B.K., Witkowski, E.T.F. & Shackleton, C.M. 2004. <i>The fuelwood crisis in southern Africa – relating fuelwood use to livelihoods in a rural village</i>. <i>GeoJournal</i> 60, 123-133. doi: 10.1023/B:GEJO.0000033597.34013.9f. Wessels, K.J., Colgan, M.S., Erasmus, B.F.N., Asner, G.P., Twine, W.C., Mathieu, R., Van Aardt, J.A.N., Fisher, J.T. & Smit, I.P.J. 2013. Unsustainable fuelwood extraction from South African savannas. <i>Environmental Research Letters</i>. 8 014007.) doi:10.1088/1748-9326/8/1/014007 Energy Sector Management Assistance Program (ESMAP). 2020. <i>The State of Access to Modern Energy Cooking Services</i>. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO Swemmer, A. M., Mashele, M. and Ndhlovu, P. D. (2019) 'Evidence for ecological sustainability of fuelwood harvesting at a rural village in South Africa', <i>Regional Environmental Change</i>, 19(2), p. 403. doi: 10.1007/s10113-018-1402-y The Fuelwood Crisis In Southern Africa	
6.	PAI1-K2C Baseline and fNRB reports submitted.
7.	Unsigned End User Agreement included.
8.	There is no South African government policy or programmes on cookstoves.
9.	ER SA Verra_v5_1.xls
10.	Documents are submitted
11.	ODK KTC Form Workflow_1
12.	Will include the PI related documents when submitting the first real case PI description documents.
DOE assessment	
Date: 21/07/2021	
The above submitted documents are submitted and assessed by the Validation Team. The documents are referred under its various assessments as appropriate. Finding is CLOSED.	

Table 2.FARs from this validation

FAR ID	xx	Section no.	Date: DD/MM/YYYY
Description of FAR			
N/A			
CME's response			Date: DD/MM/YYYY
Documentation provided by CME			

DOE assessment	Date: DD/MM/YYYY

FINDINGS ON THE PI

CAR ID	PI_01	Section no.	1.1	Date : 16/09/2021
Description of CAR				
The section 1.1, 1.10, 4.4 states inconsistent value of emission reductions compared with the ER worksheet. The reported values are not following the international norms of representation. The calculation of parameter $B_{y,savings,i,j}$ and $ER_{y,i,j}$ under section 4.4 of PI is inconsistent with submitted ER worksheet.				
CME's response				Date :
The ER calculation spreadsheet has been updated: all figures have been transparently represented and rounded down. The values have been updated to ensure consistency.				
Documentation provided by CME				
ER SA Verra_P11-K2C				
DOE assessment				Date: 20/10/2021
Consistent values are addressed now. The finding has been CLOSED.				

CAR ID	PI_02	Section no.	1.4	Date : 16/09/2021
Description of CAR				
The section 1.4 of PD lacks elaboration on how the double accounting will be avoided by unique identification number and other details will be attributed to included PI and related technologies. The VVB is requesting the template of the Project Database capturing the project instance database.				
CME's response				Date :
Section 1f of Table 2 clearly describes how double-counting will be avoided in each PI, by collecting unique end user data for each cookstove distributed. Row 1f in Table 2 has been further updated to include in the last column: “b) The unique distribution information will be stored in the monitoring database, including: i. Date of distribution ii. A unique serial number on each technology iii. GPS coordinates of the end-user (where possible) iv. Available end-user data: name, phone number, address/physical location, ID number” Furthermore the CME is providing the latest version of the monitoring database to confirm the capture of this data.				

Documentation provided by CME	
Distribution Data Template_v1	
DOE assessment	Date: 20/10/2021
Explanation of avoidance of double accounting is accepted. The same is also assessed in detail under the Eligibility Criteria under Appendix-3. Finding is CLOSED.	

CAR ID	PI_03	Section no.	1.8	Date : 16/09/2021
Description of CAR				
The evidence of the start date of the Project Instance - PI1-K2C is requested.				
CME's response				Date :
Section 1.8 updated: The start date of the GP, and first PI, is the date when the first stove is distributed under the GP/PI1. This date is: 20th August 2021 This is evidenced by the first stove entry in the monitoring database – a screenshot of the first entry in the DB is provided				
Documentation provided by CME				
K2C_Project_Database_template				
Screenshot of monitoring database				
DOE assessment				Date: 20/10/2021
The Evidence is assessed. The SD follows the date of the distribution of the first stove on 20/08/2021. The explanation along with the supportive evidence is accepted. Finding is CLOSED.				

CAR ID	PI_04	Section no.	1.11	Date : 16/09/2021
Description of CAR				
The thermal efficiency of the proposed project stove is found to be inconsistently provided across the PI DD. Moreover, the statement that average lifetime of 5 to 7 is shallot be supported by lifetime certificate/ evidence and implications on the ex-ante ER reported under ER worksheet should be updated.				
CME's response				Date :
The thermal efficiency of the project cookstove was tested by a relevant authority selected from within the Project Boundary, replicating project conditions. The tested value (38.30%) is now provided				

consistently in the PDD and supported by the University of Johannesburg SeTAR Centre test report of February 2013.	
The expected lifetime of each stove is estimated to be 5 years (although this can vary from stove to stove) and this has been reflected in the ex-ante ER calculations.	
Documentation provided by CME	
University of Johannesburg SeTAR Centre test report of February 2013	
Rocketworks Zama Zama Lifetime certificate	
DOE assessment	Date: 20/10/2021
The thermal efficiency is consistently defined inline with the technical specification. Inconsistency is now addressed. Finding has been CLOSED.	

CAR ID	PI_05	Section no.	1.11	Date : 16/09/2021
Description of CAR				
Relevant information pertaining to the included PI is missing with respect to the identification of region following the requirements of VCS Standard, version 4.1 as, 3.5.8 Grouped projects shall have one or more clearly defined geographic areas within which project activity instances may be developed. Such geographic areas shall be defined using geodetic polygons as set out in Section 3.10 below. 3.5.11 The baseline scenario for a project activity shall be determined for each designated geographic area, in accordance with the methodology applied to the project. Where a single baseline scenario cannot be determined for a project activity over the entirety of a geographic area, the geographic area shall be redefined or divided such that a single baseline scenario can be determined for the revised geographic area or areas. 3.5.12 The additionality of the initial project activity instances shall be demonstrated for each designated geographic area, in accordance with the methodology applied to the project. Where the additionality of the initial project activity instances within a particular geographic area cannot be demonstrated for the entirety of that geographic area, the geographic area shall be redefined or divided such that the additionality of the instances occurring in the revised geographic area or areas can be demonstrated. 3.5.13 Where factors relevant to the determination of the baseline scenario or demonstration of additionality require assessment across a given area, the area shall be, at a minimum, the grouped project geographic area. Examples of such factors include, inter alia, common practice; laws, statutes, regulatory frameworks or policies relevant to demonstration of regulatory surplus; determination of regional grid emission factors; and historical deforestation and degradation rates The implications on the emission reductions (example fNRB) and other relevant parameters needs to be confirmed/ transparently explained under PDD.				
CME's response				Date :

The VVM refers to a number of issues that are not pertinent to the section of the PDD referred to (i.e. Section 1.11).

To respond to each point individually and highlight the relevant PDD sections:

- The Project Boundary for both the GP and PIs is defined (as per the AMS-II.G. methodology) as: the physical, geographical site of the efficient devices that utilize biomass. Section 1.12 defines the Project Boundary for the Grouped Project. This is the geographic borders of the Republic of South Africa. The Project Boundary for each Project Instance will be defined within the geographic borders of the Republic of South Africa. The CME has identified several distinct climatic regions within South Africa which guide the definition of the individual PI Project Boundaries (see Figure 1.2). PI Project Boundaries will be defined both in terms of the climactic region(s) and a specifically described geographical area – see Section 3.3 for a clear example for PI1.
- The baseline scenario is clearly defined for each PI; this is to understand the conditions prevalent within each specific PI as opposed to across the GP Project Boundary. South Africa is a very large and diverse country making a single baseline scenario for the GP not appropriate. By defining a baseline scenario for each PI, the CME is providing a more accurate picture of the specific conditions within each PI Project Boundary. Parameter values will therefore be identified at the PI-level. Section 4.4 has been updated accordingly.
- The Additionality of the GP and each individual PI is determined by using the Activity Method, outlined in the applied methodology, which is clearly defined in Section 3.5. of the PDD. The GP and each PI included are clearly shown to be automatically additional in accordance with the methodology.
- As above, Section 4.4 has been revised to indicate that the baseline scenario will be established at the PI-level. For future PIs, additional studies for parameters $B_{old,i}$, $f_{NRB,b,y}$ and η_p will be completed.

Emissions Reductions are provided transparently in the ER calculation sheet (ER SA Verra_PI1-K2C), which are estimated using the parameter values assessed for the first Project Instance, including f_{NRB} .

Documentation provided by CME

ER SA Verra_PI1-K2C

DOE assessment

Date: 20/10/2021

Please refer the detailed assessment under the CAR 05 applicable to GP. Finding is already CLOSED.

CAR ID	PI_06	Section no.	2.2	Date : 16/09/2021
Description of CAR				

The column “**PI1-K2C Actual Implementation**” does not reflect the compliance to the established requirements of the VCS-Project Description- Template-V.4.0 applicable to PI as reproduced below

- Describe the process for, and the outcomes from, the local stakeholder consultation conducted prior to validation. Include details on the following:
 - The procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought).
 - The procedures or methods used for documenting the outcomes of the local stakeholder consultation.
 - The mechanism for on-going communication with local stakeholders.
 - How due account of all and any input received during the consultation has been taken. Include details on any updates to the project design or justify why updates are not appropriate.

Furthermore, the submitted LSC Report is assessed, and observed that all the details (except name) of attendees are redacted, causing the lack of traceability of VVB with the stakeholders. All the details of the stakeholders are requested so that VVB can select the sample stakeholders for the interviews.

CME’s response

Date :

TASC consulted with Verra on how to conduct an effective LSC process in light of the COVID pandemic. TASC developed an LSC Plan (*TASC Local Stakeholder Consultation – Covid 19 Interim Proposal, February 2021 (version 2.1)*) and submitted this to Verra for approval, which was duly obtained on 17/02/2021.

TASC then implemented this Plan and reported on this in the LSC Report (*TASC Local Stakeholder Consultation K2C Report, 15th June 2021*). The LSC Report has been updated to provide further information on: attendees, methods of invitation, pre-distribution community sensitization, contact information of CME & PI Implementer and photos.

Column “**PI1-K2C Actual Implementation**” refers to the Verra-approved LSC Plan and the LSC Report, which the VVM has assessed. The LSC Report includes detail on all of the points raised in the CAR, which includes a reference to the non-technical summary of the project provided to each stakeholder.

Furthermore, column “**PI1-K2C Actual Implementation**” has been updated to include the following:

“Stakeholder consultations that were conducted prior to implementation:

- i. Online meeting, 22/01/2021
- ii. Webinar, 22/04/2021
- iii. Sedawa Municipal Hall, 11/05/2021
- iv. Lulekani Municipal Hall, 12/05/2021
- v. Brooklyn Nazarene Church, 13/05/2021
- vi. Mnisi Tribal Hall, 14/05/2021

Stakeholders were invited to give feedback via an online survey form”

“TASC and K2C also conduct stakeholder meetings as part of the distribution process, which are documented in the accompanying PI1-K2C Stakeholder and Sensitisation Meetings report.

Communication channels are provided at all meetings and available on the How-To Guide, the meeting invitations and the Non-technical summary.”

“as well as the PI1-K2C Stakeholder and Sensitisation Meetings report describes the outcomes of these consultations.

The overall feedback received at the meetings was positive. Questions posed were centred around the use and maintenance of the stoves, qualifying recipients and on the expected start of distribution.”

Documentation provided by CME

TASC Local Stakeholder Consultation – Covid 19 Interim Proposal, February 2021 (version 2.1)

TASC Local Stakeholder Consultation K2C Report, 15th June 2021, which includes:

- *Non-Technical Summary – SA Cookstoves v2*
- *TASC SA Invitation_Brooklyn*
- *TASC SA Invitation_Lulekani*
- *TASC SA Invitation_Mnisi*
- *TASC SA Invitation_Sedawa*
- *TASC SA Invitation_Webinar*
- *Zoom Meeting to discuss potential Cookstove Carbon Offset Baseline info needs*
- *Meeting attendance registers*
- *Invitation Tracking Table*

tascSA Cookstoves How-To-Guide- draft4 -single pages - 3 June 2021

DOE assessment

Date: 20/10/2021

The evidences of LSC are provided in form of TASC Local Stakeholder Consultation K2C Report, 15th June 2021 and found inline. The report covers the information pertaining to

- The procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought).
- The procedures or methods used for documenting the outcomes of the local stakeholder consultation.
- The mechanism for on-going communication with local stakeholders.
- How due account of all and any input received during the consultation has been taken. Include details on any updates to the project design or justify why updates are not appropriate.

The VVB identified that the LSC was performed on above stated dates and no adverse comment was received. The concerns during LSC were appropriately addressed. Finding has been CLOSED.

CAR ID	PI_07	Section no.	5.1	Date : 16/09/2021
Description of CAR				
The value of the parameter 'η_p' (Efficiency of ICS at the start of project activity) is internally inconsistent with the stated thermal efficiency in the PDD, ER worksheet, submitted technical specifications for Rocket Stove. Same finding applies to $\eta_{new,,}$. The value of the parameter '$N_{y,,}$' (Number of project devices of type I and batch j operating during year y) is inconsistent with the ER worksheet for the PI. How the value of parameter 'η_{old}' is appropriate for the included PI. The stated life span of 5 years is internally inconsistent with the information within the PDD. Device manufacturers statement on the expected operational lifetime of the device is requested The value of the parameter "$NCV_{biomass}$" is missing.				
CME's response				Date :
N_p and $N_{new,i,j}$ are now consistent across all documents with the efficiency test certificate provided by Rocketworks from the University of Johannesburg. - The methodology default values are applied to η_{old} – this parameter is assessed from the distribution data collected for each end user who states which baseline appliance they are using The RocketWorks Zama Zama stove lifetime letter is provided Value for $NCV_{biomass}$ updated.				
Documentation provided by CME				
DOE assessment				Date: 20/10/2021
N_p and $N_{new,i,j}$ are now consistently reported across all documents and found inline with the efficiency test certificate provided by Rocketworks from the University of Johannesburg. - The methodology default values are applied to η_{old} – is sourced based on the distribution data collected for each end user who confirm the baseline appliance as applicable - The RocketWorks Zama Zama stove lifetime letter is provided which confirms the technical lifetime as approximately 05 years - The missing value for $NCV_{biomass}$ is appropriately updated.				

CAR ID	PI_08	Section no.	Appendix	Date : 16/09/2021
Description of CAR				

The PDD filling guidelines needs to be applied for Appendix.	
CME's response	Date :
Section: Appendix removed.	
Documentation provided by CME	
DOE assessment	Date: 20/10/2021
The fining has lost relevance, so automatically CLOSED.	

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