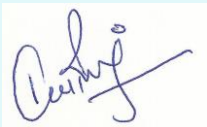


**Validation report form for inclusion of voluntary
project activities
Gold Standard for Global Goals**

BASIC INFORMATION		
Title and GS reference number of the programme of activities (PoA)	GS11009: TASC Clean Cooking PoA	
Version number of the validation report	1	
Completion date of the validation report	19/09/2022	
Title and reference number of each VPA to be included	VPA Ref. no.	Title
	GS 11596	TASC Clean Cooking PoA – VPA 3 (Zambia)
Version numbers of the VPA-DDs to which this report applies	1.4	
Applied methodologies and standardized baselines for each VPA	VPA no.	Applied methodologies
	VPA 03	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1
Sectoral scopes for each VPA	VPA no.	Sectoral scopes (indicate mandatory and conditional sectoral scopes)
	VPA 03	Sectoral Scope: 3
Coordinating/managing entity (CME)	The African Stove Company Ltd. (TASC)	
Host Parties	Zambia	
Estimated SDG Impacts	SDG 1: 32,700 ICS distributed, 810 Kwacha financial savings SDG 3: 100% Households reporting reduction in smoke/ PM emissions while cooking on project ICS SDG 5: 100% Female households reporting time saving from fuel collection & cooking time SDG 7: 32,700 ICS distributed SDG 8: 30 Number of people hired under Project SDG 12: 4.89 tonnes/stove/annum wood fuel savings SDG 13: 315,505 tCO₂e Average annual reduction	

Name and UNFCCC reference number of the VVB	Earthood Service Private Limited E-0066
Name, position and signature of the approver of the validation report	 Dr. Kaviraj Singh, Managing Director

SECTION A. Executive summary

The purpose of the VPA is to distribute Improved Cookstoves (ICS) in households in Zambia. VPA is Titled "TASC Clean Cooking PoA – VPA 3 (Zambia)" GS11596 and will distribute 32,700 ICS devices in Zambia. The VPA aims at GHG emission reduction by using ICS with better thermal efficiency and thereby reducing the indoor air quality of the household. The technology being disseminated is Improved Cookstove. The households in Zambia traditionally use non-renewable biomass. Thus, the baseline formed for this VPA is the amount of non-renewable biomass consumption in the absence of project activity.

Installation of the first unit under the VPA-03 took place on 21/09/2021/25/, and hence it has been considered as the start date. The operational lifetime of the VPA is considered 15 years, which is in line with the allowed crediting period under Community Services Activity Requirements Ver 1.2./8/ and the expected duration of PoA (20 years). The start date, length and type of the crediting period is consistent with the PoA description in PoA-DD/1/.

The Coordinating/managing entity of the PoA and VPA is The African Stove Company Ltd, the VPA Implementer is MyTrees Trust (MyTrees) & Cicada Carbon Ltd. (Cicada) is the PP of the VPA 3.

The VPA is therefore retroactive in nature, as the local stakeholder consultation was conducted between 04/02/2021 and 04/03/2021., remotely and is yet to be done physically. FAR#01 from this validation has been raised for the same, while the start date of the VPA is 21/09/2021.

Parameter	Validated information
GS ID of the VPA to be included	GS11596
Title of the VPA	TASC Clean Cooking PoA – VPA 3 (Zambia)
Methodology applied	GS Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1
Crediting period	5 years, Renewable: Twice

The VPA-03 envisages an annual GHG emission reduction of 315,505 tCO₂e over the crediting period under SDG 13, 100% reduction in the smoke/PM emissions while cooking on project ICS under SDG 3, 100% of females, households reporting time saving from fuel collection & cooking time under SDG5, 32,700 ICS will be distributed, directly to people of Zambia, resulting in improved financial savings of 810 Kwacha(Local currency) under SDG 1, 5 & SDG 7, 4.89 tonne of fossil fuels per stove per annum will be saved under SDG 12 over the entire crediting period.

Scope of Validation

The scope of the services provided by Earthood Services Private Limited is to perform validation of the VPA GS11596 (VPA 03 under the PoA GS11009). The scope of validation is to assess the claims and assumptions made in the VPA DD against the UNFCCC's CDM and GS4GG criteria, including but not limited to, CDM PS for PoA version 2.0/4/, CDM VVS for PoA /6/version 2.0, applied methodology TPDDTEC version 3.1/2/, GS4GG Principle & Requirements ver.1.2/15/, GS4GG Programme of Activities Requirements ver. 2/12/.Community Services Activity Requirements Ver 1.2/8/, and GHG Product Requirements/9/

Validation Process

The validation process is undertaken by the validation team that involves the following:

1. The desk review of documents and evidence submitted by the project participant in the context of GS4GG criteria along with the reference CDM rules and guidelines issued by CDM EB.
2. A remote audit to assess the baseline practices followed by interviews with CME and the VPA Implementers and the end-users.
3. Reporting audit findings concerning clarifications and non-conformities and the closure of the findings, as appropriate.
4. Preparing a draft validation report for the inclusion of VPA complying with the Gold Standard requirements.

An independent Technical Review team reviews the validation report prepared by the validation team. The final validation report that is accepted by Technical Reviewer is then approved on behalf of Earthood Services Private Limited and processed further as per GS4GG procedures.

Conclusion

The review of the VPA DD, supporting documentation, and subsequent follow-up actions have provided Earthood with sufficient evidence to determine the fulfilment of the stated criteria. Earthood is of the opinion that the VPA titled "GS11596 TASC Clean Cooking PoA – VPA 3 (Zambia)" as described in the final VPA DD/3/meets all relevant requirements of GS4GG, meets the regulations of the host country i.e., Zambia and has correctly applied the methodology GS TPDDTEC v3.1/2/ for distribution of Improved Cookstoves. Therefore, the VPA is being recommended to GS4GG for the request for inclusion.

SECTION B. Validation team, technical reviewer, and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection*	Interviews	Validation findings
1.	Team Leader and Meth. Expert	IR	Mahala	Deepika	Central office	Y	N	Y	Y
2.	Validator	IR	Mahala	Deepika	Central office	Y	N	Y	Y
3.	Technical, Meth Expert (TA3.1)	IR	Mahala	Deepika	Central office	Y	N	Y	Y
4.	Local Expert (Zambia)	EI	Chipompwe	Selwyn	Central office	Y	N	N	Y
5.	Trainee Validator	IR	Chaudhary	Anjali	Central office	Y	N	N	Y

*Remote Audit was conducted because of Covid as described in detail under section C.2 of this report.

B.2. Technical reviewer and approver of the validation report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g.name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	IR	Guleria	Shifali	Central office
2.	Expert to TR	IR	Guleria	Shifali	Central office
3.	Approver	IR	Singh	Kaviraj	Central office

SECTION C. Means of validation**C.1. Desk/document review**

The validation of the Voluntary Project Activities (VPA) is performed primarily as a document review of the VPA design documents for VPA 03 /3/, ER sheet/28/, and independent research on several platforms. The cross-checks between information provided in the VPA-DD/3/ and information from sources other than those used, if available, the validation team's sectoral or local expertise and, if necessary, independent background investigations.

The complete list of documents/evidence assessed by the validation team is included under Appendix 3 of this document.

C.2. On-site inspection

Duration of on-site inspection: NA				
No	Activity performed on-site	Site location	Date	Team member

During the current validation, the on-site visit was not possible due to the outbreak of COVID-19 global pandemic and Zambia which is the host country of the VPA was facing increased number of cases at the time of validation assessment being carried out/18/. Also, India (where the VVB office is based) was experiencing the second highest number of COVID-cases/18/ at the same time, the pandemic situation rendered it impossible for the validation team to conduct a physical onsite assessment.

It is important to note that the GS4GG has provided alternative measures relating to mandatory on-site visits for VVBs audits which includes the following:

If site visit cannot be postponed due to significant impact of delaying the site visit on VVB and/or project developer due to timeline/commitment as per validation/verification or GS-VERs delivery agreement, VVB may replace mandatory on-site visits with remote audits. Therefore, in this validation due to the commitment of the project developer as per the delivery timeline. The site-visit could not be postponed, and the on-site visit was replaced by remote audit.

The remote audit included the interview with the CME representative and the CPA implementer. The VVB also interviewed the end-users on sampling basis as discussed under section C.3. of this report.

C.3. Interviews

No	Interviewee			Date	Subject	Team member
	Last	First	Affiliation			

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	name	name				
1.	Cogho	Edwin	CME representative and VPA Implementer (TASC, Africa)	27/06/2022 to 29/06/2022	Program design, Baseline scenario, ex-ante and monitored parameters, technical description, Additionality, Project boundary, Ex-ante and Ex-post parameters	Deepika Mahala, Anjali Chaudhary
End-users:						
1.	Phiri	Mailess	Baseline habit survey sample	27/06/2022 to 29/06/2022	VVB baseline survey	Deepika Mahala, Anjali Chaudhary
2.	Phiri	Margret	Baseline habit survey sample	27/06/2022 to 29/06/2022	VVB baseline survey	Deepika Mahala, Anjali Chaudhary
3.	Banda	James	Baseline habit survey sample	27/06/2022 to 29/06/2022	VVB baseline survey	Deepika Mahala, Anjali Chaudhary
4.	Mwale	Vanalesi	Baseline habit survey sample	27/06/2022 to 29/06/2022	VVB baseline survey	Deepika Mahala, Anjali Chaudhary
5.	Maweela	Tikulile	Baseline habit survey sample	27/06/2022 to 29/06/2022	VVB baseline survey	Deepika Mahala, Anjali Chaudhary
6.	Phiri	Besnart	Baseline habit survey sample	27/06/2022 to 29/06/2022	VVB baseline survey	Deepika Mahala, Anjali Chaudhary
7.	Phiri	Natalia	Baseline habit survey sample	27/06/2022 to 29/06/2022	VVB baseline survey	Deepika Mahala, Anjali Chaudhary
8.	Zulu	Falesi	Baseline habit survey sample	27/06/2022 to 29/06/2022	VVB baseline survey	Deepika Mahala, Anjali Chaudhary

The project implementation started from 21/09/2021, and ICS were already distributed at the time of validation activity. To confirm the implementation, the VVB also conducted the interviews with the recipients of the project stove.

S. No	Last Name	First Name	Affiliation	Date	Team Member
1.	Precious	Mwale	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
2.	Magret	Soko	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary

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3.	Sophia	Mwanza	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
4.	Belita	Banda	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
5.	Patricia	Banda	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
6.	Constantino	Makani	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
7.	Naomi	Mumba	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
8.	Velesi	Zulu	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary

To ensure that the baseline KPT was conducted, the following end-users were interviewed by the VVB, and it was confirmed that the baseline KPT has been conducted.

S. No	Last Name	First Name	Affiliation	Date	Team Member
1.	Mwale	Precious	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
2.	Soko	Magret	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
3.	Mwanza	Sophia	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
4.	Banda	Belita	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
5.	Banda	Patricia	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
6.	Makani	Constantino	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
7.	Mumba	Naomi	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary
8.	Zulu	Velesi	End-User	27/06/2022 to 29/06/2022	Deepika Mahala, Anjali Chaudhary

Type of questions asked by the Team member

No.	Questions asked by Assessment team during the remote audit
1.	Number of people in the household & how many children
2.	Baseline cooking device & fuel
3.	Type of Fuel used in the project stove and how long does it take to collect fuel where is the stove fuel obtained
4.	Operationality of stove & its ID
5.	Location of the ICS
6.	Users were also asked how they got benefitted from the installation of the project stove; for example: reduction in the smoke level or indoor air pollution, efficient cooking. This covers the VVB's assessment on Safeguarding principles, SDG assessment and stakeholder inclusivity.
7.	Was the KPT conducted at their household and when was it conducted.
8.	Any complaints with project stoves

C.4. Sampling approach

CME Approach:

CME will follow sampling procedures given in Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1/2/ for determining the sample size of each parameter. A confidence precision of 90/10 or 90/30 will be ensured by CME for meeting the annual/biennial monitoring criteria. The sampling approach undertaken by CME is duly explained under section B.7 of the VPA-DD/3/, which has been assessed by the validation team and found to be correct and in-line to the methodology /2/.

VVB's Sampling approach:

Distribution Database of the project stove was provided by the CME along with the baseline habit survey.

Sampling approach used by VVB is based on UNFCCC Standard: Sampling and surveys for CDM project activities and programmes of activities version 9.0/14/. Since VPA 03 is being implemented in Zambia, which is a LDC (<https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information>), acceptance sampling conditions were applied in accordance with para 39(c) of Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 9.0/14/, VVB has applied acceptance sampling, in order to review the data collection and appropriateness of baseline scenario of the proposed VPA.

The validation team determined the sample size for acceptance sampling by evaluating the following, using its own professional judgement and guidance in the Standard 'Sampling and surveys for CDM project activities and programme of activities, Version 9.0' /14/:

- The proportion of discrepancies between the CME's data and validation team's (field or onsite inspection results) data that can be considered acceptable. This is referred to as the AQL (Acceptable Quality Level): 0.5% was considered in this validation.
- The proportion of discrepancies between the CME's data and validation team's (field or onsite inspection results) data that would be considered unacceptable. This is the UQL (Unacceptable Quality Level): 20% was considered in this validation.
- The producer risk and consumer risk of 10% was considered.

Considering the above input values, a sample size of 08 was required as per Table 2 in the referred Standard for this monitoring period. Accordingly, acceptance number (c) thus determined for the sample size is 0. A sample size of 08 meets the criteria. The samples to be surveyed by VVB were randomly selected from the list of baseline habit survey sheets using the random sample generation function on Microsoft excel.

VVB has covered 11 samples from the sampling frames with 3 households extra as backup for the purpose of remote inspection to check the acceptability of CME's sampling results or otherwise.

Project implementation till date was checked for the purpose of validation scope of the project during the remote survey. CME has provided distribution database of the project technology on which 90/30 confidence precision was applied. VVB has further picked up 8 samples from the distribution database to check the implementation of the project technology under the VPA as per as the registered monitoring plan/3/.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of validation of compliance (0)	No. of CL	No. of CAR	No. of FAR
Titles of the VPA and corresponding generic VPA	-	-	-
Compliance with VPA-DD form	-	CAR 01	-
General description of the VPA	-	CAR 03	-
Application of methodologies and standardized baselines	-	CAR 04	-
Reference to methodologies and standardized baselines	-	-	-
Project boundary, sources and GHGs	-	-	-
Baseline scenario	-	-	-
Estimation of emission reductions or net anthropogenic removals	-	-	-
Equations and parameters applied to calculate GHG emission reductions or net anthropogenic GHG removals	-	-	-
Data and parameters fixed ex ante	CL 01	CAR 02	-
Ex ante calculation of GHG emission reductions or net anthropogenic GHG removals	-	-	-
Monitoring plan	-	-	-
Data and parameters to be monitored	-	-	-
Description of the monitoring plan	-	-	-
Start date, crediting period type and duration	-	-	-
Environmental impacts	-	-	-
Local stakeholder consultation (Interviews)	-	-	FAR 01
Remote Survey	-	-	-
Eligibility for inclusion	-	CAR 04	-
Safeguarding Principles	-	-	-
Double counting	-	-	-
Estimated annual Emission Reductions	-	-	-
Others*			12
Total	1	04	01

* findings raised by GS during preliminary review

SECTION D. Validation findings

D.1. Proposed CPAs and corresponding generic VPA

VPA title and reference number	Version number of the VPA-DD	Host Party	Version number of the PoA-DD into which the VPA is included
GS11596 TASC Clean Cooking PoA – VPA 3 (Zambia)	1.4	Zambia	Version 2.0

D.2. Compliance with VPA-DD form

Means of validation	The VPA DD/3/ have been prepared using the applicable version of GS VPA-DD, i.e., version 2.0/11/. It has been checked from the GS website that the form used is the appropriate and applicable for this VPA 03. Each section of the VPA-DD/3/ was also checked with the guidelines stated in the form/11/ and found to be fulfilling it.
Findings	CAR 01 was raised and resolved

Conclusion	The VPA-DD /3/ is found to comply with the applicable form and all the sections filled are in line to the form guidelines.
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D.3. General description of the VPA

Means of validation	The VPA 03 aims to distribute 32,700 ICS in Zambia. This will provide energy efficient, ICS to the people of Zambia which will be implemented by MyTrees Trust and TASC being the CME of the VPA. The geographical boundary of VPA is confined to Zambia, as a host country. The VPA takes forward the same goal as that of the PoA under which it seeks inclusion. <table border="1"> <tr> <td>GS ID of Project</td><td>GS11596</td></tr> <tr> <td>Title of Project</td><td>TASC Clean Cooking PoA - VPA 3 (Zambia)</td></tr> </table> - The ICS that is delivered to the project location is based on the Principle of Improved heat transfer from combustion chamber to cooking pots, resulting in lesser time & fuel consumption. This stove delivers a thermal efficiency of 41.6% according to an independent lab report from the Kenya Industrial Research and Development Institute (KIRDI) of 19/11/2017/33/. The design facilitates the chamber shape, air flow & fuel amount through the stove. - To maximize thermal energy, the thermal mass of the ICS will be reduced to minimize heat loss through the sides and bottom of the stove while the cooking surface/top is positioned at an optimal distance from the fire. - It is Crucial to establish a correct gas flow path required for transfer of heat. Wood fuel models may have a grate provided at the base of the stove for placing wood fuel on. <u>Implementation status:</u> The distribution of first ICS under GS11596 (VPA 03), took place on 21/09/2021 which determines the start date of VPA as well as the start date of crediting period of the VPA/25/. The crediting cycle length is 5 years and type of the crediting period is renewal twice for the VPA as per Programme of activities requirements/12/. The VPA cover an estimated annual GHG emission reduction 315,505 tCO₂e/28/under SDG 13, 100% smoke reduction in the households while cooking under SDG3, 100% in gender equality under SDG5, 32,700 ICS will be distributed, directly to people of Zambia under SDG 1, SDG5 & SDG 7, 30 people of Zambia will be contracted to work under SDG 8, 4.89 ton of fossil fuels per stove per annum will be saved under SDG 12 over the entire crediting period. <u>Scale of the project</u> The number of units have been verified from the distribution record/27/ and the calculation of aggregated capacity under each VPA is clearly depicted in the ER sheet /28/ provided by the CME. Thus, the validation team has confirmed that the VPA is large-scale. <u>No-ODA</u> The VPA is not being funded by any Annex-I party which could be	GS ID of Project	GS11596	Title of Project	TASC Clean Cooking PoA - VPA 3 (Zambia)
GS ID of Project	GS11596				
Title of Project	TASC Clean Cooking PoA - VPA 3 (Zambia)				

	verified through the no ODA declaration provided by CME to the validation team/16/. <u>Grievance Mechanism:</u> According to GS4GG principle and requirements v1.2/15/ para 4.1.28, "If the Consultation is conducted after the start date, the Project Developer shall provide further explanation of how comments received during the consultation are taken into account and implement a Grievance Mechanism in line with the Stakeholder Consultation & Engagement Requirements." CME has established the grievance mechanism at the PoA level, and the following means can be used by the stakeholders to submit their grievances through the following VPAI contacts: 1. grievance@mytreestrust.org 2. admin@mytreestrust.org 3. An Expression process book will be placed at the identified locations to enable the stakeholders to submit their grievances/feedback. All the details related to the management system and the grievance mechanism was confirmed from the CME representatives during the remote audit conducted between 26/06/2022 to 29/06/2022/41/.
Findings	CAR 03 was raised and resolved.
Conclusion	The validation team confirms that the information provided is complete and correct concerning the description of technology(ies) and/or measures to be used, the description is as per the registered VPA DD/3/ and is following the GS4GG principles and requirement/15/ including a description of the purpose of the VPA and explanation how the VPA will reduce GHG emissions. The validation team confirms that: 1. The validation team has conducted a thorough and independent assessment of the implementation of the included VPA against the GS4GG principles and requirements. 2. The validation team has assessed both quantitative and qualitative information on GHG emission reduction or net anthropogenic GHG removals provided in the programme documentation. 3. The validation team has assessed that the implementation and operation of the VPA in accordance with registered POA, and the steps taken to report GHG emission reductions or net anthropogenic GHG removals comply with the relevant GS4GG principles and requirements. 4. The validation team has assessed that the data collection system meets the requirements of the registered monitoring plan as per the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents. 5. The coordinating/managing entity has addressed the FARs identified during the validation or previous verification(s). Please refer to appendix 4. Thus, the implementation of the VPA is meeting the requirements of PS for PoA version 2.0/4/ and GS4GG Principles and Requirements/15/.

D.3.1. Assessment of the eligibility of the VPA under Gold Standard

Means validation	of	Paragraph 3 of the GS4GG Principles and Requirements/15/ includes the general criteria that applies to all the projects seeking Gold Standard
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Certification. The VPA follows Applied methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 3.1, August 2017.

The demonstration of the VPA meeting the eligibility criteria under the approved PoA has been represented below:

Applicability Criteria as per Gold Standard	Means of Verification	Means of Validation
Geographic Boundary and target area Required condition Each VPA shall involve installation of ICS within the geographical boundary of PoA.	Distribution database	The aim of the VPA is to provide ICS to households in Zambia as mentioned by CME under Section A.2 of the VPA-DD/3/. This was confirmed through the distribution database of Zambia. Thus, requirement of with para 3.1.1 (d) of Community Service Activity Requirements (Version 1.2)/8/ and in accordance with the PoA-DD/1/ have been met. Thus, the eligibility criterion is met.
Double Counting Required Condition: Each VPA shall be added to the monitoring database with a unique set of distribution data.	Distribution database consisting of • a unique ID serial number of the ICS • a GPS tag • End user data (name/address/physical location/phone number/govt. ID number) • Records of baseline stove type and fuel type used	A declaration has been provided by the CME confirming about the provision to eliminate double counting/22/. Since, the implementation has already began, the details were checked through remote audit interview and their end user agreement for 8 end users form the database. The validation confirmed that all stoves have a unique ID, a GPS tag, end user data and also confirmed the baseline stove type and fuel. Hence, it was confirmed that

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			provision to record all the details to avoid double counting is already in place and will be followed for future distribution as well. Thus, the eligibility criterion is met
	Exclusiveness of VPA Required Condition: The VPA was not previously registered as a project activity or included as a VPA in any other registered PoA or deregistered as a VPA of a PoA.	Confirmation by CME	It has been verified from the CME declaration/23/ that the ICS under VPA do not form part of any other POA activity nor are registered with any other carbon standard. Furthermore, various carbon registries have been checked by the Validation team to confirm that the VPA exclusively belong to the PoA/24/ Thus, the eligibility criterion is met
	Specification of the technology/measure Required Condition: 1.Type - The VPA will promote dissemination of improved biomass ICS in PoA. 2.Capacity - The rated annual thermal energy savings of ICS included under the VPA shall not be more than 1.8GWhth.	Technical specifications of the ICS (including thermal efficiency and energy/power rating) and ER sheet	The VPA involves dissemination of ICS. The technical specification /33/ and the ER sheet calculation were checked to confirm that annual thermal energy savings of ICS are less than the stated limit. Thus, the eligibility criterion is met
	Start Date Required condition: Date on which first ICS was installed under the VPA. The VPA will fall in 2 categories: a) Start date of VPA before start date of the	The date of the End User Agreement for the first ICS distributed in the VPA	The start date of the distribution of ICS is 21/09/2021 as verified from the first end user agreement/25/. This date is after the start date of the POA which is 23/03/2021/1/. Thus, the eligibility criterion is met by the

	PoA b) Start date of the VPA after start date of the PoA The scenario will be clearly described in the VPA-DD at time of inclusion.		VPA.
	Applicability of the methodologies Required Condition: VPA must follow TPDDTEC version 3.1. The applicability criteria of the methodology are listed in section B.2 of the PoA-DD. Technology related requirements stipulated by the methodology have been specified in criteria #4 above	POA-DD VPA-DD ER sheet Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 3.1	All the conditions of applicability of baselines & methodologies have been explained in Section B.2 of the VPA-DD. The applicability conditions have been assessed in detail under the section D.4.1 of this report. Thus, the eligibility criterion is met.
	Additionality Required condition: According to GS4GG Community Services Activity Requirements version 1.2, Para 4.1.9: Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of design certification: (a) Positive list (Annex B of this document) (b) Projects located in LDC, SIDS, LLDC (c) Microscale projects	Distribution database ER sheet VPA-DD	This VPA is located in Zambia, which is a LDC. In addition to this the VPA meets the Positive List criteria of since the Project activity is based on isolated units where the users of the technology/measure are households with each unit results in ≤ 600 MWh of energy savings per year or ≤ 600 tonnes of emission reductions per year Each unit included in this VPA will result in approximately 20 MWh energy savings as verified from technical

			specifications/33/ and calculation in the ER sheet/28/ and is therefore deemed additional.
	Official Development Assistance (ODA) Required condition: Affirmation that funding from Annex I Parties, if any, does not result in a diversion of ODA	No ODA declaration	The CME has provided with an ODA declaration/16/ that shows that no funds for any official development assistance will be utilized for the Project. This is in line with the requirements of the PoA DD/1/. Thus, the eligibility criteria is met.
	Target Group and Distribution Mechanism Required Condition: Target Group: Households/Small institutions/SMEs Distribution Mechanism: Via VPAI / local partners	The ICS by virtue of their size, output and design are usable only in households/ SMEs. The monitoring database will confirm distribution to households. A bespoke distribution mechanism will be defined in each VPA-DD.	Distribution database/27/ contains details of end users of the households and its has been confirmed by the assessment team during the remote audit that only households have been part of the project population. This is in accordance with the PoA DD eligibility condition/1/. The distribution is being done through VPAI / local partners as confirmed through interview with CME representative and contract between CME and VPA implementer/54/. Thus, the VPA meets the eligibility criteria.
	Sampling Required Condition: VPA under the program will adhere to all sampling requirements in	PoA-DD VPA-DD	The monitoring plan and the implementation of the sampling plan as described under the section B.7.2 of the VPA-DD captures the

	TPDDEC, version 3.1		conditions for sampling in line with the applied methodology TPDDEC, version 3.1/2/. Thus, this eligibility criterion is met.
	Eligibility of Technologies Required Condition: As per TPDDEC, version 3.1: "Examples of these technologies include the introduction of improved biomass or fossil fuel cookstoves, ovens, dryers, space and water heaters (solar and otherwise), heat retention cookers, solar cookers, bio-digesters, safe water supply and treatment technologies that displace the boiling of water, thermal insulation in cold climates, etc."	Technical specifications	The VPA involves introduction of improved cookstoves with an efficiency of 41.6% as verified from the manufacturer's specification/33/ which is in line with the PoA-DD/1/ and meets the applicability condition of TPDDTEC/2/. Thus, the VPA meets the eligibility criteria
	SSC Threshold Required condition: NA	VPA-DD	This eligibility criterion is not applicable.
	Conditions to be met by each VPA regarding SDG outcomes assessment Required Condition: SDG outcomes, and the methods of monitoring these outcomes, are defined in the PoA-DD Section A.4	ER Sheet VPA-DD	The Assessment team has verified that the SDG outcomes under section D.6 of this report in detail and found to be appropriately described and in-line with the PoA-DD/1/. Thus, the eligibility criterion is met.
	Conditions to be met by each VPA regarding safeguarding principles Required Condition: Safeguarding Principles, and the methods of monitoring	VPA-DD	The safeguarding principles as assessed in detail under section E.1. of this report and are found to be correctly described in conformance with PoA-DD/1/

	these principles, are defined in the PoA-DD Section E		
	Conditions to be met for retroactive VPA Required condition: The VPA will be submitted for preliminary review within a year of its start date	Not applicable	Start date of this VPA is 21/09/2021 & since the date of preliminary review is 29/04/2022 which is within 1 year of the start date, therefore this is a Retroactive project as stated under para 4.1.49 (b) of the principles and requirements/15/.
	Conditions to be met for CER Labelling Required condition: N/A	N/A	This is not applicable for this VPA.
	Conditions to be met in multi-country PoAs Required Condition: Conditions that might apply for a single country PoA will apply to each country that is included in the PoA including <i>inter alia</i> baseline parameter assessments, LSC etc.	VPA-DD POA-DD Distribution database	The host country for VPA 03 i.e., Zambia is included in the POA-DD/1/. All the conditions have been shown to be met by the VPA implemented in Zambia. The baseline parameters have been assessed in under section D.5.2 of this report. Physical LSC has not been done for which FAR#01 has been raised from this validation. Thus, the eligibility criterion is met.
Findings	FAR 01 was raised.		
Conclusion	The VVB has accepted and validated the general eligibility criteria that applies to all VPA seeking Gold Standard Certification. The eligibility of the VPA is found to be valid in accordance with the section 3.1.1 of GS4GG principles and requirements version 1.2/15/.		

D.4. Application of methodologies and standardized baselines

D.4.1. Reference to methodologies and standardized baselines

Means of validation	The methodology applied for the VPA is Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC)/2/ version 3.1.		
	The applicability conditions of the methodology TPDDTEC version 3.1/2/ are validated below:		
	Applicability Criteria as	Justification	Assessment

	per methodology	from CME	
	This methodology is applicable to programmes or activities introducing technologies and/or practices that reduce or displace greenhouse gas (GHG) emissions from the thermal energy consumption of households and non-domestic premises. Examples of these technologies include the introduction of improved biomass or fossil fuel cookstoves.	The VPA involves distribution of fuel-efficient improved biomass cookstoves ("ICS") to households in Zambia.	The VPA aim at distributing Energy efficient ICS devices in line to the section 2 of TPDDTEC version 3.1/2/. Each device is geo-tagged & have with unique ID as checked from the VPA database/27/. The use of product leads to greenhouse gas (GHG) emissions from the thermal energy consumption of households. Thus, the criterion is met.
	The project boundary needs to be clearly identified, and the technologies counted in the project are not included in any other voluntary market or CDM project activity (i.e., no double counting takes place). In some cases, there may be another similar activity within the same target area. Project proponents must therefore have a survey mechanism in place together with appropriate mitigation measures so as to prevent any possibility of double counting.	Section A.1.1 Eligibility Criteria 1 and 2 outline the VPA's compliance with this applicability criteria.	It was confirmed from the review of the registry that the VPA with same title is not included in any other voluntary market. The project boundary is all the households receiving the stoves which is clearly defined in the VPA DD. The same has been verified from the CME provided declaration/22/. Thus, this criterion is applicable.
	The technologies each have continuous useful energy outputs of less than 150kW per unit (defined as the total useful energy delivered from start to end of operation of a unit divided by time of	Section A.1.1 Eligibility Criteria 7 confirms distributed ICS capacity is limited to 1.8 GWh th energy savings per annum - less than 150kW	The VPA aims at distributing energy efficient ICS in Zambia. The energy saving per unit is estimated as 20 MWh as verified form VPA-DD, ER Sheet and technical

	operation). For technologies or practices that do not deliver thermal energy in the project scenario but only displace thermal energy supplied in the baseline scenario, the 150kW threshold applies to the displaced baseline technology.	equivalent.	specifications/33/, which is within the specified limits 1.8 GWh thermal energy savings per annum - less than 150kW equivalent. Thus, the criterion is applicable
	Using the baseline technology as a backup or auxiliary technology in parallel with the improved technology introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old technology (e.g., discounted price for the improved technology) and the definitive discontinuity of its use. The project documentation must provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology.	The VPA provides subsidized ICS technology that offers a 'step-change' in the efficiency of cooking in end user households encouraging a switch in. Training will be provided to end users at the point of distribution to encourage them to move away from their traditional inefficient appliances. Use of the baseline appliance will be monitored, and any residual use will result in the emission reductions being adjusted.	The PP confirmed during the interview plans to provide training to the end users to encourage them for not using the baseline stove. The monitoring plan as mentioned under section B.7.1 of the VPA-DD is found to be appropriately chosen and correctly described as per the requirements under point 3 of section 1, of TPDDTEC version 3.1/2/. Therefore, the criterion is applicable.
	The project proponent must clearly communicate to all project participants the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. For technology producers and the retailers of the improved technology or	The end user agreement with transfer the rights of ownership of VERs from the ICS beneficiary to CME. The VPA Stove Manufacturer, has	The sample end-user carbon transfer agreement/19/ and the carbon waiver agreements/48/ were checked, and it is confirmed that the rights of ownership of VERs will be transferred from the beneficiary to CME

	the renewable fuel in use, this must be communicated by contract or clear written assertions in the transaction paperwork. If the claimants are not the project technology end users, the end users will need to be informed and notified that they cannot claim for emission reductions from the project.	provided a waiver letter to confirm that they have no claim over the ERs generated by the stoves. Any subsequent manufacturers will provide the same.	and this is according to point 4 of section 1, of TPDDTEC version 3.1/2/. Thus, the applied criteria are met.
	Project activities making use of a new biomass feedstock in the project situation (e.g., shift from non-renewable to green charcoal, plant oil or renewable biomass briquettes) must comply with relevant Gold Standard specific requirements for biomass related project activities, as defined in the latest version of the Gold Standard rules. If the biomass feedstock is sourced from a dedicated plantation, the criteria must apply to both plantations established for the project activity AND existing plantations that were established in the context of other activities but will supply biomass feedstock.	No new biomass feedstock usage is envisaged in the project activity.	The VPA involves no new biomass usage, so this condition is not Applicable.
	Adequate evidence is supplied to demonstrate that indoor air pollution (IAP) levels are not worsened compared to the baseline, and greenhouse gases emitted by the project fuel/stove combination are estimated with adequate precision. The project fuel/stove	The test reports of one of the initial stove models to be distributed under the PoA, Burn Kuniokoa are provided, according to which the IAP	It was verified from the IAP test reports/49/conducted on the initial stove model to distributed under the PoA that the IAP levels are likely to improved with project stove in use.

	combination may include instances in which the project stove is a baseline stove.	parameters CO and PM _{2.5} are tested. The value of CO = 8.27 g/MJ and PM _{2.5} = 275.5 mg/MJ. This is significantly less than 3-stone open fires.	Thus, the criterion is met by the VPA
	Records of renewable fuel sales may not be used as sole parameters for emission reduction calculation but may be used as data informing the equations in section 2.0 of this methodology. These records need to be correlated to data on distribution and results of field tests and surveys confirming (a) actual use of the renewable fuel and usage patterns (such as average fraction of non-renewable fuels used in mixed combustion or seasonal variation of fuel types), (b) GHG emissions, (c) evidence of CO levels not deteriorating (d) any further factors effecting emission reductions significantly.	Renewable fuels are not used in the project scenario. The fuel used in the project is non-renewable and is harvested by end-users. Further, any renewable component is considered in the fNRB, and ERs are discounted accordingly.	In the project scenario only, non-renewable fuel is used in the project stoves. The fNRB calculation sheet/50/ and ER/28/ have been duly verified for any renewable component and the values considered are found to be conservatively chosen. Thus, the criterion is met.
Findings	CAR 04 was raised and resolved.		
Conclusion	The validation team confirms that the VPA i.e., VPA 03 meet all the applicability conditions of the applied methodology /2/.		

D.4.2. Project boundary, sources and GHGs

Means of validation	The project boundary is defined as the physical and geographical boundary of the project facility. The project boundary includes the point location of ICS devices to provide clean, energy efficient stoves to locals of Zambia. Therefore, the project boundary is clearly defined in the VPA-DD/3/ as per the methodology/2/. Emissions sources in both baseline and project scenario is combustion of woody biomass. CME has included: CO₂, CH₄ and N₂O emissions in both project and baseline scenarios. The assumptions in the VPA DD were found to be consistent with the PoA DD.
Findings	No findings
Conclusion	The project boundary, sources and GHGs have been determined in line

	with the applied methodology/2/ and the PoA-DD/1/.
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D.4.3. Baseline scenario

Means validation	The baseline scenario in the VPA 03 is in conformance to the one set at PoA level. CME has applied an approved baseline and methodology TPDDTEC Version 3.1/2/ under GS4GG programme. This VPA involves distribution of improved cookstoves with better efficiency to the households. In line with the applied methodology, "A baseline scenario is defined by the typical baseline fuel consumption patterns in a population that is targeted for adopting the new project technology." The VPA targets only rural HHs in Zambia which rely majorly on woody biomass for their cooking. Energy access diagnostic Report by world bank group for Zambia/53/ indicates that overall, 50.7% of the households in the country used wood as the main source of fuel for cooking. However, in rural households, around 84.5% of the Zambia population depends on Woody-biomass for cooking. CME had conducted baseline surveys on sampled household between 07/06/2022 and 15/06/2022, to identify the baseline fuel and stove. The households reported 100% use of wood-fuel with traditional stove in use. The information was confirmed through baseline survey result sheet/51/. The VVB conducted remote interview with sampled households(08 HHs) from baseline survey sheet. It was confirmed from the end-users that they were using three-stone fire as their baseline device and the type of fuel used in the baseline device was wood. Additionally, sampled households(8 HHs) from database of implemented stoves were also interviewed to confirmed to confirm the baseline scenario. The assessment team has also verified through interview with end-users (8 HHs) that the baselined KPT were conducted. The assessment team has reviewed the VPA-DD in line with the applied methodology/2/ and it is confirmed that the CME has correctly identified the baseline scenario and is in line with the POA-DD/1/.
Findings	None
Conclusion	The validation team based on the description provided above regarding the assessment of the requirements confirms that: (a) All the assumptions and data used by the project participants are listed in the VPA-DD/3/ and or its annexures, including their references and sources. (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the VPA-DD/3/. (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable. (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the VPA-DD.

	(e) The approved baseline methodology has been correctly applied to identify the most plausible baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed PoA. The validation team confirms that it has taken relevant steps and has reviewed other sources of information used to cross-check the information contained in the VPA-DD/3/, wherever applicable, as listed above.
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D.4.4. Demonstration of Additionality

Means of validation	Applicability conditions	Justification by the Project proponent	Means of validation
	Specify the methodology or activity requirement or product requirement that establish deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	According to GS4GG Community Services Activity Requirements version 1.2, Para 4.1.9: Projects that meet any of the following criteria are deemed additional and therefore are not required to prove Financial Additionality at the time of design certification: (d) Positive list (Annex B of this document) (e) Projects located in LDC, SIDS, LLDC (f) Microscale projects	The project activity falls under the positive lists. Therefore, in accordance with Paragraph 4.1.9(b) of Community Service Activity Requirements (Version 1.2)/8/, the host country Zambia is a LDC therefore the VPA is not required to demonstrate additionality. Below is the assessment for opinion on positive list condition for community services.
	Describe how the proposed project meets the criteria for deemed additionality.	The VPA meet the Positive List criteria of: Project activities solely composed of isolated units where the users of the technology/measure are households or communities or institutions and where each unit results in ≤ 600 MWh of energy savings per year or ≤ 600 tonnes of emission reductions per year Each unit included in the VPA will result in approximately 20	Para 1.1.3. of Annex-B of CSA requirements, sets the condition for auto additional projects. The VPA aim at distributing Energy efficient ICS devices in Zambia, which is isolated unit to be distributed in target households. The ICS details have been verified through technical specifications from KIRDI lab test

		MWh energy savings (calculation in the ER calculation sheet) and is therefore deemed additional.	reports/33/. It was confirmed that the energy savings are less the applicable limits(600MWh), Thus, the condition was found to be met and the VPA falls under positive list of Annex B of CSA requirements/8/.
	Community Service Requirement:		
	Requirement	PD justification	VVB Assessment
	Para 3.1.1: All CSA Projects shall lead to climate change mitigation and/or adaptation by providing or improving access to services/resources at the household or community or institution level. Eligible services include electricity and energy, water and sanitation, waste management, housing, etc.	This VPA includes distribution of efficient improved cookstoves (ICS) reducing greenhouse gas (GHG) emissions from thermal energy consumption due to burning of non-renewable woody biomass for cooking in Zambia for residential users. Therefore, the project falls under Type b (End-use energy efficiency) of Pre-identified CSA project types.	The VPA aims at distributing ICS stoves which is efficient and uses less fuel as compare top the three stone stove and thereby reducing the GHG emission reduction. Thus, this criterion was found to be met as the project type is a pre-identified CSA project type.
	Para 3.1.2: Project Area and Boundary shall be defined in line with the applicable Impact Quantification Methodologies and Product Requirements	The geographical project boundary of this VPA is defined as the country of Zambia	The project boundary is assessed in detail under the section D.4.2 of this report.
	Para 3.1.3: Certain Impact Quantification methodologies allow projects to account Suppressed Demand scenario when establishing a baseline. In such cases, the application of Suppressed Demand baseline is limited to Small Scale and Microscale Projects.	This VPA does not apply suppressed demand scenario.	Not applicable as the project does not apply suppressed demand scenario.
	Para 3.1.4: Projects involving the distribution of a large number of devices for services such as	The Project Participants retain the ownership rights to the carbon credits from this VPA. This is	TASC has the ownership rights to the carbon credits from this VPA. The same has been

	heating, cooking, lighting, electricity generation, water treatment technology such as water filter, etc. shall provide a clear description of the ownership of the Products that are generated under Gold Standard Certification all along the investment chain. In line with the FPIC requirement, the proofs that end-users are aware of and willing to give up their rights on Products shall be provided. The transfer of Product ownership shall be discussed during local stakeholder consultations for projects.	communicated clearly to end users through the community sensitization process and documented clearly through an End User Agreement signed by the ICS recipients.	verified through the end-user signed forms/19/. Thus, this applicability criterion was found to be met.
Findings	CR 04 was raised and resolved.		
Conclusion	The VPA was found to be additional and in conformance to the POA-DD/1/ and the applied methodology/2/.		

D.4.5. Ongoing financial need

Means of validation	It has been confirmed from the no ODA declaration/16/ that there is no provision for public funding available for the VPA. OFN is required only at time of renewal according to the para 4.1.45 of Principles and requirements /15/.
Findings	No findings.
Conclusion	Not applicable.

D.4.6. Prior Consideration

The project start date is 21/09/2021, which is the date when the first ICS was distributed, and end-user agreement was signed under the VPA.

D.5. Estimation of emission reductions or net anthropogenic removals

D.5.1. Equations and parameters applied to calculate GHG emission reductions or net anthropogenic GHG removals

Means of validation	SDG 13 The VPA applies methodology, for ICS. The methodological choices have been explained below: The applied methodology TPDDTEC version 3.1 defines the methodological steps to determine the project emissions, baseline emissions, leakages and anthropogenic emissions by the proposed project activity.
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Baseline emissions are calculated as follows:

$$BE_{b,y} = B_{b,y} * ((f_{NRB,y} * EF_{b,fuel, CO2}) + EF_{b,fuel, nonCO2}) * NCV_{b, fuel}$$

Where:

- $B_{b,y}$ = Quantity of fuel consumed in baseline scenario b during year y, in tons, calculated as 6.44 tonnes in Zambia.
- $f_{NRB,y}$ = A fixed non-renewable biomass fraction value has been calculated as 0.91 for Zambia¹
- $NCV_{b, fuel}$ = Net calorific value of the fuel that is substituted or reduced (IPCC default value for Wood/Wood Waste)
- $EF_{b,fuel, CO2}$ = CO₂ emission factor of the fuel that is substituted or reduced. (IPCC default value for Wood/Wood Waste)
- $EF_{b,fuel, nonCO2}$ = Non-CO₂ emission factor of the fuel that is substituted or reduced. (IPCC default value for Wood/Wood Waste)

Project non-renewable biomass assessment may be deemed same as baseline, albeit should be updated for project fuel mix.

Project fuel consumption will be established via project field test KPTs and will be conducted at-least biennially. The project field test KPTs will be determined using either paired / independent or single sample tests. 90/30 rule for sample size determination will be applied in case of paired or independent sampling. 90/10 rule will be applied in case of single sampling. In case desired precision is not achieved, lower bound value of the 90% confidence interval should be applied.

GHG reductions achieved by the VPA will be calculated as follows:

$$ER_y = \sum BE_{b,y} - \sum PE_{p,y} - \sum LE_{p,y}$$

Where:

ER_y Emission reduction for total project activity in year y (tCO₂e/yr)

$BE_{b,y}$ Baseline emissions for baseline scenario b in year y (tCO₂e/yr)

$PE_{p,y}$ Project emissions for project scenario p in year y (tCO₂e/yr)

$LE_{p,y}$ Leakage for project scenario p in year y (tCO₂e/yr)

As per the methodology the governing equation for the emission reduction calculations is as follows² with $(\sum BE_{b,y} - \sum PE_{p,y})$ is directly merged in to the following equation:

$$ER_y = \sum_{b,p} N_{p,y} * U_{p,y} * (ER_{b,p,y, CO2} + ER_{b,p,y, nonCO2}) - \sum LE_{p,y}$$

Where:

$N_{p,y}$ Cumulative number of project technology-days included in the Monitoring Database for project scenario p against baseline scenario b in year y

$U_{p,y}$ Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction). A separate usage factor is determined for each technology in the

¹ See C4Ecosolutions report

² Although the project does not envisage a fuel type shift from baseline to project scenario however, there is a possibility of a change in the fuel mix ratio over the years, hence the ERs are being determined based on equation (2) of the methodology, page 20.

	project.
$ER_{b,p,y,CO2}$	Specific CO ₂ emission savings for an individual technology of Project <i>p</i> against an individual technology of Baseline <i>b</i> in year <i>y</i> , in tCO ₂ /day as derived from the statistical analysis of the data collected from the field tests
$ER_{b,p,y,nonCO2}$	Specific non-CO ₂ emission savings for an individual technology of Project <i>p</i> against an individual technology of Baseline <i>b</i> in year <i>y</i> , in tCO ₂ /day as derived from the statistical analysis of the data collected from the field tests
$LE_{p,y}$	Leakage for project scenario <i>p</i> in year <i>y</i> (tCO ₂ e/yr)
$ER_{b,p,y,CO2} =$	$\sum_i \{ f_{NRB,b,i,y} * B_{b,y,i} * NCV_{b,i} * EF_{b,i,CO2} \} - \sum_i \{ f_{NRB,b,i,y} * B_{p,y,i} * NCV_{p,i} * EF_{p,i,CO2} \}$
Where:	
$f_{NRB,b,i,y}$	Fraction of woody biomass used in year <i>y</i> for fuel type <i>i</i> that can be established as non-renewable biomass (NRB) (drop this term from the equation when using a fossil fuel baseline scenario)
$B_{b,y,i}$	Fuel consumption for fuel type <i>i</i> used in baseline <i>b</i> in year <i>y</i> , in tonnes/day, as derived from the default factor for the quantity of fuel consumed in baseline scenario ($B_{b,y}$)
$B_{p,y,i}$	Fuel consumption for fuel type <i>i</i> used in project <i>p</i> in year <i>y</i> , in tonnes/day, as derived from the statistical analysis of the data collected from the field tests
$NCV_{b,i}$	Net calorific value of the fuel type <i>i</i> used in baseline <i>b</i> (TJ/tonnes)
$NCV_{p,i}$	Net calorific value of the fuel type <i>i</i> used in project <i>p</i> (TJ/tonnes)
$EF_{b,i,CO2}$	CO ₂ emission factor of the fuel type <i>i</i> used in the baseline (tCO ₂ /TJ)
$EF_{p,i,CO2}$	CO ₂ emission factor of the fuel type <i>i</i> used in the project (tCO ₂ /TJ)
$ER_{b,p,y,nonCO2} =$	$\sum_i \{ B_{b,y,i} * NCV_{b,i} * EF_{b,i,nonCO2} \} - \sum_i \{ B_{p,y,i} * NCV_{p,i} * EF_{p,i,nonCO2} \}$
Where:	
$EF_{b,i,nonCO2}$	non-CO ₂ emission factor of the fuel type <i>i</i> used in the baseline (tCO ₂ /TJ)
$EF_{p,i,nonCO2}$	non-CO ₂ emission factor of the fuel type <i>i</i> used in the project (tCO ₂ /TJ)
	Leakage emissions if applicable, considers
	a. The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.
	b. The NRB or fossil fuels saved under the project activity are used by non-project users who previously used lower emitting energy sources.
	c. The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario.
	d. The project population compensates for loss of the space heating

effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.

By virtue of promotion and marketing of a new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline.

SDG 1: No Poverty

1. ICS distribution records:

Net Benefit (SDG 1) =

$$BSA_{\text{Project}} - BSA_{\text{Baseline}}$$

Where:

$$BSA_{\text{Baseline}} \quad \text{Number of ICS distributed in baseline} = 0$$

$$BSA_{\text{Project}} \quad \text{Number of ICS distributed in Project} = 32,700$$

2. Ex-post Monitoring Survey Records measuring money savings due to reduced fuel consumption in households (HHS):

Net Benefit (SDG 1) =

$$HHS_{\text{Project}} - HHS_{\text{Baseline}}$$

Where:

$$HHS_{\text{Baseline}} \quad \text{HHS reporting money saving due to reduced fuel consumption in baseline} = 0$$

$$HHS_{\text{Project}} \quad \text{HHS reporting money saving due to reduced fuel consumption in project} = 100\%$$

SDG 3:

Ex-post Monitoring Surveys to check change in health issues like reduction in smoke levels or particulate matter etc.

Net Benefit (SDG 3) =

$$SPM_{\text{HH,Project}} - SPM_{\text{HH,Baseline}}$$

Where:

$$SPM_{\text{HH,Baseline}} \quad \% \text{ HH reporting reduction in smoke/PM emissions while cooking on improved stove in baseline} = 0$$

$$SPM_{\text{HH,Project}} \quad \% \text{ HH reporting reduction in smoke/PM emissions while cooking on improved stove in project} = 100\%$$

SDG 5:

Ex-post Monitoring Survey Records measuring time savings from reduced fuel collection or cooking time with ICS use

Net Benefit (SDG 5) =

$$HHTS_{\text{Project}} - HHTS_{\text{Baseline}}$$

Where:

$$HHTS_{\text{Baseline}} \quad \% \text{ HH reporting time saving from fuel collection due to reduced fuel consumption in baseline} = 0$$

$$HHTS_{\text{Project}} \quad \% \text{ HH reporting time saving from fuel collection due to reduced fuel consumption in project} = 100\%$$

SDG 7:

ICS distribution records

Net Benefit (SDG 7) =

$$ACS_{\text{Project}} - ACS_{\text{Baseline}}$$

Where:

	ACS_{Baseline} Access to affordable and clean energy (Number of operating ICS units under Baseline) = 0 ACS_{Project} Access to affordable and clean energy (Number of operating ICS units under Project) = 32,700 SDG 8: Employment records Net Benefit (SDG 8) = QE IG_{Project} - QE IG_{Baseline} Where: QE IG_{Baseline} Quantitative Employment and income generation (Number of person (male and female) hired under Baseline) = 0 QE IG_{Project} Quantitative Employment and income generation (Number of person (male and female) hired under Project) = 30 SDG 12: Responsible Consumption and Production: The calculation is same SDG 13 for determination of fuel savings due to project activity.
Findings	No findings were raised.
Conclusion	The methodological choices are justifiable and appropriate as per GS4GG requirements. All the values applied, and calculations are reviewed from the ER sheet/28/ and were found to be acceptable by the assessment team.

D.5.2. Data and parameters:

Means of validation	The monitoring plan in the VPA-DD/3/ is correctly described. The monitoring plan has been found to be in compliance with the requirements of the applied methodology TPDDEC Version 3.1 /2/ and the POA as mentioned in the POA-DD/1/.													
	The values of ex-ante parameter and monitored parameters can be found in the table given below.													
	Parameter fixed ex-ante:													
	<table border="1"> <thead> <tr> <th>Relevant SDG Indicator</th><th>Parameter</th><th>Value in PoA-DD</th><th>Assessment</th></tr> </thead> <tbody> <tr> <td>13.3.1</td><td>B_{b,y}</td><td>6.44 tonnes</td><td>The value of the parameter was calculated to be 6.44 tonnes through the baseline KPTs conducted by the CME. The calculation of the parameter has been clearly demonstrated in the VPA-ER sheet/28/ and the baseline KPT sheet/52/and was found to be in-line with the applied methodology/2/.</td></tr> <tr> <td>13.3.1</td><td>EF_{b,i,CO2}</td><td>Fuelwood / wood chips: 1.68 tCO₂/t_{fuel}</td><td>The value applied for the parameter was found to be the default IPCC value/29/ and the</td></tr> </tbody> </table>	Relevant SDG Indicator	Parameter	Value in PoA-DD	Assessment	13.3.1	B _{b,y}	6.44 tonnes	The value of the parameter was calculated to be 6.44 tonnes through the baseline KPTs conducted by the CME. The calculation of the parameter has been clearly demonstrated in the VPA-ER sheet/28/ and the baseline KPT sheet/52/and was found to be in-line with the applied methodology/2/.	13.3.1	EF _{b,i,CO2}	Fuelwood / wood chips: 1.68 tCO ₂ /t _{fuel}	The value applied for the parameter was found to be the default IPCC value/29/ and the	
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			same values were found to be mentioned in the PoA-DD/1/
13.3.1	$EF_{b,i,nonCO2}$	Fuelwood / wood chips: $0.51 \text{ tCO}_2/\text{t}_{fuel}$	The value applied for the parameter was found to be the default IPCC value/29/ and the same values were found to be mentioned in the PoA-DD/1/
13.3.1	$EF_{p,i,CO2}$	Fuelwood / wood chips: $1.68 \text{ tCO}_2/\text{t}_{fuel}$	The value applied for the parameter was found to be the default IPCC value/29/ and the same values were found to be mentioned in the PoA-DD/1/
13.3.1	$EF_{p,i,nonCO2}$	Fuelwood / wood chips: $0.51 \text{ tCO}_2/\text{t}_{fuel}$	The value applied for the parameter was found to be the default IPCC value/29/ and the same values were found to be mentioned in the PoA-DD/1/
13.3.1	$NCV_{b,i}$	Fuelwood / wood chips: 0.015 TJ/tonnes Other solid biomass fuels	The value applied for the parameter was found to be the default IPCC value/29/ and the same values were found to be mentioned in the PoA-DD/1/
13.3.1	$NCV_{p,i}$	Fuelwood / wood chips: 0.015 TJ/tonnes	The value applied for the parameter was found to be the default IPCC value/29/ and the same values were found to be mentioned in the PoA-DD/1/
13.3.1	$f_{NRB,b,i,y}$	0.91 for Fuelwood/wood chips/ woody charcoal 0.00 for Renewable Solid biomass fuels 1 for fossil fuels.	The value for this parameter is sourced from the published c4 EcoSolution study dated 25/3/2022/50/.

Data and parameters to be monitored:

Relevant SDG Indicator	Parameter and Unit	Monitoring Frequency	Assessment
13.3.1.	$B_{p,y}$ (Tonnes per household per annum)	Updated every two years	The quantity of fuel consumed in project scenario is determined using project field test results. The estimated value of the parameter is 1.55 tonnes was

			checked from the ER sheet/28/. The value will be updated every two years.
13.3.1.	$U_{p,y}$ (Fraction or %)	Annually	The estimated value of the parameter is 90%. The actual value of the parameter will be determined on an annual basis through Sampling Survey which will be carried out by the trained staff.
13.3.1.	$N_{p,y}$ (Number)	Continuous	The value of the parameter is 32,700. The parameter will be determined continuously through monitoring database.
13.3.1.	$LE_{p,y}$ (tCO ₂ /year)	Every two years	The value for the parameter is considered as 3,315 (ex-ante). The leakage assessment will be carried out biennially as per applied methodology.

Monitoring of Sustainable Development Parameters:

Sl.no.	Parameter and Unit	Monitoring Frequency	Assessment
1.	SDG 1: BSA / HHS (Number & Currency) Proportion of population living in households with access to basic services	Annually	The value for this parameter is determined as 32,700. ICS database & Ex-post monitoring survey will be used to assess the proportion of population with ICS still in operation and amount of money spent less monthly. This will determine the access to basic service to the HHs/institutions
2.	SDG 3: SPM _{HH} Air Quality in project households	Annually	The estimated value for this parameter is 100%. The parameter will be determined at ex-post through the monitoring survey conducted by the trained staff.
3.	SDG 5: HHTS (Hours) Time saving per household	Annually	The estimated value for this parameter is 100% household reporting time savings & 1 hour saved

			daily from reduced fuel collection . The parameter will be determined, ex-post, through the monitoring survey conducted by the train staff.
4.	SDG 7: AACS _{HH} (Number) Number of households and institutions having access to affordable, reliable and modern energy services.	Continuously	The estimated value for this parameter is 32,700. The actual value of the parameter will be determined continuously through the monitoring survey conducted by the trained staff.
5.	SDG 8: QE IG (Number) Quantitative Employment and income generation	Annually	The estimated value for this parameter is 30. The actual value of the parameter will be determined through the employment records maintained by the CME. This will reflect the total number of employment and income generated due to the implementation of the project.
6.	SDG 12: By,savings Reduction in domestic fuel consumption	Annually/ Biennially	The estimated value for this parameter is determined as 4.89 tonnes. The actual value of the parameter will be determined through the monitoring survey conducted by the trained staff. The value will reflect the reduction in the amount of domestic fuel consumption after shifting to ICS.

The assessment team confirmed that the monitoring parameters are sufficient to calculate the emission reductions in accordance with the methodology/2/.

The validation team confirms that list of parameters and SDG monitored parameters identified by the CME and as mentioned in the VPA-DD/3/are in line with the monitoring methodology and the POA-DD/1/

	Implementation of Sampling Plan The CME has used Standard for Sampling and Survey for CDM project activities and programmes of activities (Version 09.0)/14/ to design the sampling plan for the VPA in line with the applied methodology TPDDTEC version 3.1/2/. The target population will be the households of the host country i.e., Zambia. The overall sample size is determined for monitored parameters via surveys is to be distributed within each age category based on percentage of stoves in corresponding age category. For example, • if only devices in the first year of use (age 0-1) are being credited, a usage parameter must be established through a usage survey for technologies age 0-1. • If technologies in the first year of use (age 0-1) and second year of use (age 1-2) are credited, a usage parameter is required that is weighted to be representative of drop off rates for technologies age 0-1 and age 1-2. For determining the fuel consumption in the project scenarios, the KPT sample size determination shall be based on the guidance given in the methodology. The sampling approach and sample size calculations will be presented transparently and accurately in every monitoring report. The CME shall also monitor the following parameters: • Address or location and telephone number (mobile or landline where possible) • The number of people served by the baseline technology and typical usage patterns and tasks (e.g., commercial, institutional, domestic, etc.) • Types of baseline technologies used and estimated frequency • Types of fuels used and estimated quantities • Seasonal variations in baseline technology and fuel use • Sources of fuels (purchased or hand-collected, etc.) and prices paid, or effort made (e.g., walking distances, persons collecting, opportunity costs) The Validation team confirms that the sample requirements are in line with the applied methodology TPDDTEC version 3.1/2/.
Findings	CL 01 and CAR 02 was raised and resolved.
Conclusion	The SDGs chosen by CME are accurate & the monitoring of all the parameter align with the methodology of TPDDTEC version 3.1/2/ and the POA-DD/1/.

D.5.3. Ex-ante calculation of SDG Impact:

Means validation of	The VPA applies methodology TPDDTEC version 3.1/2/; for ICS in Zambia, to provide clean energy stoves. The methodological choices have been explained below: The applied methodology TPDDTEC version 3.1/2/ defines the methodological steps to determine the project emissions, baseline emissions, leakages and anthropogenic emissions by the proposed
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	project activity. The formulae and approach used for ex ante calculation of baseline emissions has been correctly presented and implemented as per methodology TPDDTEC Version 3.1/2/. They have been given consistently within the ER sheet/28/ and VPA-DD/3/. For SDGs other than SDG 13 formulas were found to be consistent with the PoA DD/1/. The value of the parameters have already been assessed in detail in the previous section of this report.
Findings	None
Conclusion	The ER sheet was reviewed and found to apply formulas and ex-ante estimates in line with the PoA DD/1/ and applied methodology/2/.

D.6. SDG Outcomes

Means of validation	The methodology applied for the VPA is Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) version 3.1/2/. The applicability conditions of the methodology TPDDTEC version 3.1/2/ are validated below:		
	Most relevant SDG Target	SDG Impact Indicator (Proposed or SDG Indicator)	Assessment
	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	Via distribution of ICS, the VPA avoids cooking on traditional stoves. This results in increased access to basic services (efficient cooking), new technology (improved stoves) and reduces poverty by reducing purchased fuel consumption, or time taken to collect fuel. 1.4.1 Proportion of population living in households with access to basic services	The implementation of VPA 03 will lead to reduction in GHG emissions, reduces poverty & overall upliftment of people as the time for collection of fuel often will reduce. And so, will indoor air pollution will improve. Database/27/ were checked to confirm the distribution of ICS. VVB has also conducted remote interviews and confirms the implementation of the VPA 03.
	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous	Via distribution of ICS, the VPA results in reduction in exposure to indoor	The implementation of VPA 03 will lead to reduced indoor air pollution will improve

	chemicals and air, water and soil pollution and contamination.	air pollutants associated with biomass fuel based traditional cooking. 3.9.1 Mortality rate attributed to household and ambient air pollution	IAP levels as per reports/49/and was thus verified.
	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	In the poorest communities, the burden of collecting and/or purchasing fuel for cooking often falls on women and children. By reducing fuel collection and cooking time, the PoA provides women in project households with more time to invest in other productive economic development activities. 5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location	The implementation of VPA 03 will lead to reduction in fuel consumption and therefore time reduced for collecting the same and the higher efficiency also leads to reduced cooking time.
	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	The VPA involves dissemination of efficient, modern technology for cooking and helps in using available energy sources more efficiently. 7.1.2 Proportion of population with primary reliance on clean fuels and technology	The ICS distributed under the VPA are energy efficient than those in the pre-project scenario i.e, the 3 stone open fire. The technical description/33/ of the ICS confirmed that the product can be considered reliable modern energy service. Since, it is provided at no cost, it is

			affordable as well.
	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.	The VPA will generate employment in the Host Country in distribution, logistics, management and monitoring activities. 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.	The VPA is estimated to employ 30 people and thereby generate employment in the host country. The CME will provide employment records at the time of verification to confirm minimum wages as per host country requirements are provided. Thus, the criterion is met.
	13.2 Integrate climate change measures into national policies, strategies and planning	The VPA contributes towards avoidance of GHG emissions by reducing the use of non-renewable biomass in cooking. Amount of CO₂e emissions reduced by the project per year.	The VPA is estimated to reduced 315,505 tCO ₂ e annually, thereby fulfilling the criteria, the same is verified from the ER sheet/28/.
	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with the obligations under the international agreements	Via distribution of ICS, the VPA will reduce the consumption of non-renewable biomass in participant households by as much as 50%, depending on stove model.	The VPA estimates a reduction in consumption of 4.89 tonne/stove/annum, non-renewable biomass by the ICS distributed. The calculations are verified from the ER sheet for the same/28/, therefore the criterion is met.
Findings	CAR#03 was raised and resolved.		
Conclusion	The validation team confirms that the VPA i.e., VPA 03 meet all the applicability conditions of the applied methodology /2/.		

D.7. Start date, crediting period type and duration

Means of validation	According to GS4GG Principles and Requirements version 1.2 para 4.1.40/14/, "For distributed technology projects, the start date is the date of implementation of the first unit under the project". VPA 03 has the crediting period of 5 years, renewable twice. The VPA start date of the crediting period of GS11596 (VPA 03) is 21/09/2021 which is the date of installation of the first unit/25/. The expected operational lifetime of the VPA is 15 years. The start date of crediting period is also considered the same.
Findings	No findings
Conclusion	The date has been confirmed from distribution database/27/ lifetime and crediting period of the VPA 03 lies within the crediting period of the PoA and is in accordance with GS4GG Principles and Requirements/15/.

D.8. Environmental impacts

Means of validation	EIA is not required.
Findings	Not Applicable
Conclusion	Not Applicable

D.9. Stakeholder consultation

Means of validation	The African Stove Company Ltd. (TASC) has not been able to conduct a local stakeholder consultation due to covid restrictions in the host country. Online LSC accompanying for the PoA Design Consultation Between 04/02/2021 to 04/03/2021. The CME invited all the categories of stakeholders as mentioned in GS4GG Stakeholder consultation requirements/7/. The projects will provide ICS devices for local communities 32,700 such devices will be distributed in Zambia under VPA 03. All the information is available in the Design consultation report/21/. There were no negative comments received from the stakeholder consultation rounds and all the queries or concerns raised by the stakeholder were satisfactorily resolved by the CME.
Findings	FAR 01 is raised from this validation
Conclusion	Physical LSC is pending for first verification. FAR#01 from this validation has been raised for the same.

SECTION E. Sustainability Assessment**E.1. Safeguard principles assessment**

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Assessment team's Opinion/ justification for the mitigation measure
Principle 1: Human Rights			
1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be	No	The VPA will respect internationally proclaimed human rights and shall not be complicit in violence or human rights	The CME and the VPA have to respect related laws of Zambia and will not lead to violations of human rights or

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complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights		abuses of any kind as defined in the Universal Declaration of Human Rights. The project will not discriminate with regards to participation and inclusion	discrimination of any kind. Zambia has ratified UN Human Rights Conventions/31/.
2. The Project shall not discriminate with regards to participation and inclusion	No	The VPA does not discriminate with regards to participation and inclusion	The VPA are about access to energy efficient ICS Devices in Zambia it will not discriminate with regards to participation and inclusion of both men and women. This is in line with the Gender equality and HR policy of the company/32/.

Principle 2. Gender Equality

3. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women a. Sexual harassment and/or any forms of violence against women – address the multiple risks of gender-based violence, including sexual exploitation or human trafficking. b. Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. c. Restriction of women's rights or access to resources (natural or economic). d. Recognise women's ownership rights regardless of marital status – adopt project measures where possible to support to women's access to inherit and own land, homes, and other assets or natural resources.	No	The VPA activity does not endorse any form of discrimination based on gender. ICS will be distributed to all willing customers within the project boundary. The project will have a positive impact on women considering that they will spend less time on cooking or fuel procurement and will be able to cook in cleaner environment.	The VPA will not directly or indirectly lead or contribute to adverse impacts on gender. The VPA is about access to energy efficient ICS Devices in Zambia are foreseen to improve the general conditions of women and not to lead to any risk of contributing issues like sexual harassment, sexual exploitation, violence, human trafficking. This is in line with the Gender equality and HR policy of the company/32/.
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Principle 3: Community Health, Safety and Working Conditions

1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	No	ICS distributed under the VPA reduce exposure to harmful indoor air pollutants and smoke levels. This can lead to a reduction of respiratory illness compared to cooking on traditional biomass stoves using solid biomass fuel.	Local communities will benefit from clean indoor air quality and an improved ICS. The project activities do not pose risks to the health of the community the VPA will reduce the risk of illness in communities and indoor air pollution caused by burning of fossil fuels etc.
Principle 4.1 Sites of Cultural and Historical Heritage			
Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	Not relevant	Not Applicable
Principle 4.2 Forced Eviction and Displacement			
Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	Not relevant	Not Applicable
Principle 4.3 Land Tenure and Other Rights			
Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	Not relevant	Not Applicable
Principle 5 Corruption			
The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	Neither the CME nor VPAI is complicit in any form of direct or indirect corruption.	The VPA involves dissemination of ICS devices, VPA are not involved or will contribute to corruption. Zambia have Ratified UN Convention against corruption & VPA will follow/43/.
Principle 6.1 Labour Rights			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and	No	The VPA does not involve any forced labour and the CME& VPAI will ensure that all employment is in compliance with local labour regulations and	The VPA follows the labour laws and policies of Zambia/44/. VPAI employment contracts and OHS policy from Stove manufacturers will be provided at the time of

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standards embodied in the ILO fundamental conventions		laws.	verification.
2. Workers shall be able to establish and join labor organizations	No	The CME puts no constraints / limitation on employees to form a union.	The VPA puts no constraints / limitation on employees to form a union.
3. Working agreements with all individual workers shall be documented and implemented and include: a. Working hours (must not exceed 48 hours per week on a regular basis), AND b. Duties and tasks, AND c. Remuneration (must include provision for payment of overtime), AND d. Modalities on health insurance, AND e. Modalities on termination of the contract with provision for voluntary resignation by employee, AND f. Provision for annual leave of not less than 10 days per year, not including sick and casual leave.	No	The CME's policies and employment contracts are compliant with the requirement	The VPA will not hire local employees. The CME will supervise local partners to follow the labour laws of Zambia about the employees' working hours, remuneration, annual leave. The employment model related to the VPA will be also locally and culturally appropriate. VPAI employment contracts and OHS policy from Stove manufacturers will be provided at the time of verification.
4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion)	No	The CME and VPAI do not promote and are not complicit in child labour	The CME does not promote / or is complicit in child labour the age of all the staffs hired will be checked through ID cards to make sure that no one is below 18. All the laws of the land will be obeyed by VPA & local implementers. This is in line with the Gender equality and HR policy of the company/32/.
5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and	No	Not relevant	Not Applicable

response measures			
Principle 6.2 Negative Economic Consequences			
1. Does the project cause negative economic consequences during and after project implementation?	No	No negative economic consequences are deemed applicable	At the beginning, the CME will provide fund to cover the operation cost of the VPA including expenditures beyond the project certification cycle, e.g., maintenance of boreholes, hygiene campaigns and monitoring. After the successful sale of carbon credits generated from the VPA, the carbon market will provide financial sustainability of the VPA. The VPA has positive economic benefit due to less expenditure on firewood for preparing meals and more job opportunities under this project.
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The VPA reduces GHG emissions relative to baseline scenario	The VPA reduces GHG emissions by reducing the consumption of biomass to prepare meals will not be a necessity.
Principle 7.2 Energy Supply			
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The project will reduce fuel resource consumption instead.	The VPA reduces GHG emissions by reducing the consumption of biomass to prepare meals will not be a necessity. VPA will not require energy supply.
Principle 8.1 Impact on Natural Water Patterns/Flows			
Will the Project affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	Not relevant	Not Applicable

Principle 8.2 Erosion and/or Water Body Instability			
Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	The VPA shall result in reduction in demand of biomass fuel in the region putting less pressure of forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling.	The VPA shall result in reduction in demand of biomass fuel in the region putting less pressure on forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling. The fuels will be mostly for domestic use.
Principle 9.1 Landscape Modification and Soil			
Does the Project involve the use of land and soil for production of crops or other products?	No	Not relevant	Not Applicable
Principle 9.2 Vulnerability to Natural Disaster			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	Not relevant	Not Applicable
Principle 9.3 Genetic Resources			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	Not relevant	Not Applicable
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	Not relevant	Not Applicable
Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	Not relevant	Not Applicable
Principle 9.6 Pesticide and Fertilizers			

Will the Project involve the application of pesticides and/or fertilisers?	No	Not relevant	Not Applicable
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	The VPA does not involve harvesting of forests. The VPA shall result in reduction in demand of biomass fuel in the region putting less pressure of forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling.	The VPA does not involve harvesting of forests. The VPA shall result in reduction in demand of biomass fuel in the region putting less pressure on forests for deforestation and will hence indirectly avoid erosion associated with tree cutting/ felling.
Principle 9.8 Food			
Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	Not relevant	Not Applicable
Principle 9.9 Animal Husbandry			
Will the Project involve animal husbandry?	No	Not relevant	Not Applicable
Principle 9.10 High Conservation Value Areas and Critical Habitats			
Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	Not relevant	Not Applicable
Principle 9.11 Endangered Species			
Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	Not relevant	Not Applicable

E.2. Gender Sensitive requirements

Means of validation	Question	Justification provided by CME	VVB Assessment
	Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The VPA lists SDG 5 as a key impact area for the project and provides the means to monitor this within the monitoring plan. The VPA-03 ensures that gender-sensitive approaches are taken during stakeholder consultations.	The VPA will abide by the national gender strategy. The VPA include women at every step and do not promote gender disparity in any manner. So, the VPA does not involve and is not complicit in any form of discrimination based on gender difference in line with the National Women Development Policy/42/.
	Question 2 - Explain how the project aligns with existing country policies, strategies, and best practices	The VPA aligns with the Zambia National Gender Policy and directly addresses the issues raised in Section 2.3.5 Energy	The VPA align with the goals of Zambia with respect to equal rights and they also align with the National Women Development Policy /42/ which eliminates gender disparity.
	Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	Not required. Improved cookstove projects not following Gender responsive approach do not require to contract an expert as per Gender Equality Requirements & Guidelines. The project will have a positive impact on women included under the Programme by providing them with cleaner cooking solutions.	It has been confirmed from the Stakeholder consultation reports that several women from various categories were invited to attend the stakeholder consultation meeting/20/. The VVB checked the feedback matrix during the desk review and ensured that the CME took their feedback into consideration and

			there was no gender disparity.
	Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	Not required. Improved cookstove projects not following Gender responsive approach do not require to contract an expert as per Gender Equality Requirements & Guidelines. The stakeholder consultation will include interactions with potential beneficiaries including women and their feedback shall be considered appropriately	It was confirmed from the Stakeholder Consultation report/20/ that members of the women organizations were invited to the meeting and no other expert's opinion was needed.
Findings	No findings.		
Conclusion	The Validation team confirms that the VPA comply with the GS4GG Gender Equality guidelines and requirements.		

SECTION F. Internal quality control

A draft inclusion report prepared by validation team is reviewed by an independent technical review team (one or more members) to confirm whether all the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion was reached in an objective manner that complies with the applicable GS4GG rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of the technical review team are independent of the validation team.

During the technical review process, additional findings may be identified, or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that need to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized by the Managing Director on behalf of Earthood Services Private Limited.

SECTION G. Validation opinion

Earthood Services Private Limited (Earthood) has performed a Gold Standard (GS4GG) validation and inclusion of the "GS11596-TASC Clean Cooking PoA - VPA 3 (Zambia)". The validation and inclusion is performed on the basis of rules and requirements defined by Gold Standard and UNFCCC, as appropriate.

The review of the PoA-DD/1/, VPA-DD/3/, supporting documents and subsequent follow-up actions (independent research of information) has provided Earthood with sufficient evidence to determine the fulfilment of stated criteria.

The VPA will lead to access of clean cooking to people of Zambia. The project results in reduction of CO₂e emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario and the emission reductions attributable to the project are, hence, additional to any that would occur in the absence of the proposed GS programme of activities.

The emission reductions (average) from the TASC Clean Cooking PoA - VPA 3 (Zambia) (GS11596), are estimated to be 315,505 tCO₂e/year over the selected 5 years of renewable

crediting period. The emission reduction forecast has been checked, and it is deemed likely that the stated amount is achievable given that the underlying assumptions do not change.

The monitoring plan explained in VPA-DDs is in compliance with the registered PoA DD, Version 2.0. It adequately provides for the ex-post monitoring of the project's emission reductions and sustainable indicators as defined in GS PoA-DD(GS11009). The monitoring arrangements described in the monitoring plan are feasible within the project design and it is Earthood's opinion that TASC shall be able to implement the monitoring plan.

In summary, "TASC Clean Cooking PoA – VPA 3 (Zambia)" as described in the VPA-DD and, meets all relevant GS requirements and correctly applies the baseline and monitoring methodology TPDDTEC v3.1. Therefore, Earthood requests the inclusion of the TASC Clean Cooking PoA – VPA 3 (Zambia) under the registered GS11009–TASC Clean Cooking PoA.

Appendix 1. Abbreviations

Abbreviations	Full Texts
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
DNA	Designated National Authority
DO	Distribution Organisation
DRB	Demonstrably renewable woody biomass
EB	CDM Executive Board
EIA	Environmental Impact Assessment
FAO	Food and Agriculture organization
FAR	Forward Action Request
GHG	Greenhouse gas(es)
ICS	Improved Cook Stoves
IPCC	Intergovernmental Panel on Climate Change
LAF	Leakage Adjustment Factor
LSC	Local Stakeholder Consultation
NRB	Non-Renewable Biomass
PA	Project Activity
PoA	Programme of Activities
PoA DD	CDM Programme of Activities Design Document
UID	Unique Identification number
VPA	Voluntary Project Activity
VPA DD	Voluntary Project Activity Design Document

Appendix 2. Competence of team members and technical reviewers

Competence Statement	
Name	Deepika Mahala
Country	India
Education	M. Sc. (Environment Management), GGSIP University B.Sc. Hons. (Chemistry), Sri Venkateshwar College, DU
Experience	6 Years +
Field	Climate Change
Approved Roles	
Team Leader	YES
Validator	YES
Verifier	YES
Methodology Expert	ACM0002, AMS.I.D., AMS.I.A, AMS.III.AV, AMS.II.G, AMS-II.C

Local expert	YES (India, Bangladesh)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2 & TA 3.1)		
Reviewed by	Shifali Guleria (QM)	Date	28/04/2022
Approved by	Kaviraj Singh (MD)	Date	28/04/2022

Competence Statement			
Name	Anjali Chaudhary		
Education	Bachelor of technology in Civil Engineering		
Experience	NA		
Field	Civil Engineering		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	YES		
Reviewed by	Shifali Guleria, Quality Manager	Date	25/05/2022
Approved by	Deepika Mahala, Technical Manager	Date	25/05/2022

Competence Statement	
Name	Shifali Guleria
Education	M.Sc. (Environmental Studies and Resource Management), TERI University
Experience	3+ year
Field	Climate Change
Approved Roles	
Team Leader	YES
Validator	YES
Verifier	YES
Methodology Expert	YES (AMS-I.A., AMS-II.G., AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002)
Local expert	YES
Financial Expert	NO
Technical Reviewer	YES
TA Expert	YES (1.2, 3.1)

Reviewed by	Deepika Mahala	Date	16/02/2022
Approved by	Ashok Gautam	Date	18/02/2022

Competence Statement			
Name	Selwyn Chipompwe		
Country	Zambia		
Education	Higher Diploma in Agriculture		
Experience	4 years +		
Field	Agriculture		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	YES (Zambia)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert	NO		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Kumar Gautam	Date	01/03/2018

Appendix 3. Documents reviewed or referenced

S.No.	Author	Title	References to the document	Provider
1.	TASC	PoA-DD	Version 2 dated 25/08/2021	CME
2.	Gold standard	Applied methodology: TPDDTEC	Version 3.1.	Others
3.	TASC	VPA-DD	Version 1.4 dated:28/07/2022	Others
4.	UNFCCC	Standard: CDM PS for PoA	Ver. 2.0	Others
5.	UNFCCC	Standard: CDM PCP for PoA	Ver. 2.0	Others
6.	UNFCCC	Standard: CDM VVS for PoA	Ver. 2.0	Others
7.	GS4GG	GS4GG Stakeholder consultation and engagement requirements	Version 1.2 Dated Oct 2019	Others
8.	GS4GG	Community Services Activity Requirements	Version 1.2 Dated Oct 2019	Others

GS4GG-VPA-VAL-FORM

9.	GS4GG	GHG Product Requirements	Version 2.0	
10.	TASC	First cookstove installation invoice	21/09/2021	CME
11.	GS4GG	GS4GG VPA-DD Template	Version 2.0	Others
12.	GS4GG	Gold Standard Programme of Activities Requirements,	Version 2.0	Others
13.	GS4GG	Interim Measures	Version 3.0	Others
14.	UNFCCC	Standard for Sampling and surveys for CDM project Activities	Version: 9.0	CME
15.	GS4GG	Principles and requirements for GS4GG	Version 1.2	Others
16.	TASC	ODA Declaration	Dated: 03/11/2020	CME
17.	UNFCCC	Guidelines for sampling and survey for project activity and programme of activities	Version: 4.0	Others
18.	Worldometer	Link: https://www.worldometers.info/coronavirus/countries-where-coronavirus-has-spread/	Last accessed: 24/08/2021	Others
19.	TASC	Sample carbon transfer agreement between and end-users	-	CME
20.	TASC	Stakeholder consultation report	-	CME
21.	TASC	Design Consultation report	04/02/2021-04/03/2021	CME
22.	TASC	No Double counting Declaration	23/06/2021	CME
23.	TASC	Declaration showing this project as no new registration	23/06/2021	CME
24.	TASC	Declaration showing this project is implemented exclusively of other PAs.	23/06/2021	CME
25.	TASC	Start date of the VPA	21/09/2021	
26.	DNA news	https://www.dnaindia.com/world/report-covid-19-Zambia-extends-travel-ban-for-india-till-june-14-2892631	Last accessed: 06/07/2021	Others
27.	TASC	Technical specification of stove	19/11/2017	CME
28.	TASC	ER sheet (for Zambia)	Version 1.0	CME
29.	IPCC	2006: GHG inventory Guidelines	2006	Others
30.	UNFCCC	PoA-6864 Link: https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/YC9QEKSX8NPJ5BFIDLTWZ0M3RVGUA2/view	-	Others
31.	UN	UN Human Rights Conventions	2006	Others
32.	TASC	Gender equality and human resource policy	May 2020	CME
33.	KIRDI	Technical specification of stove	19/11/2017	CME
34.	UN	UN Declaration on the rights of Indigenous people	2001	Others

35.	Government of Zambia	National Women Development Policy	2011	Others
36.	Ministry of Land, Zambia	https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/budget_mof/799b4a82_f259_4fd4_98ba_a1b17af0e9b5/G-3_17_146_Land_English.pdf	-	CME
37.	Women Development Maniesto	https://democracyworks.org.za/wp-content/uploads/2021/07/Zambia-Women-Manifesto.pdf	-	CME
38.	UN treaty Collection	https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XVIII-14&chapter=18&clang=en	-	CME
39.	International Labour Organization: Ratifications for Zambia	https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103500	-	CME
40.	UNCTAD	https://unctad.org/topic/least-developed-countries/list	-	Others
41.	ESPL	VVB Remote survey files	26/06/2022 to 29/06/2022	Others
42.	Government of Zambia	National Women Development Policy	2011	Others
43.	UN	UN Convention against corruption	2003	Others
44.	ILO	Zambia Labor Act	2006	Others
45.	TASC	Employment contracts	Various	CME
46.	TASC	Community Sensitization Videos	Various	CME
47.	USAID	Link: https://www.usaid.gov/what-we-do/global-health/cross-cutting-areas/demographic-and-health-surveys-program	-	CME
48.	TASC	Carbon waiver Agreements	Various	CME
49.	TASC	Indoor air pollution Report	19/12/2017	CME
50.	C4 ecosolution	fNRB calculation sheet	-	CME
51.	TASC	Baseline habit survey	07/06/2022 and 15/06/2022	CME
52.	TASC	KPT	VPA 1 Zambia 24/01/2022 - 03/03/2022	CME
53.	Zambia Beyond Connections, Energy Access Diagnostic Report, World Bank Group	https://openknowledge.worldbank.org/bitstream/handle/10986/22521/Clean0and0impr000a0landscape0report.pdf?sequence=1&isAllowed=y	-	Other
54.	Distribution Partner	Contract between CME and VPA implementer Vitalite Zambia limited	1/7/2020	CME

Appendix 4. Clarification requests, corrective action requests and forward action requests

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

FAR ID	01	Section no.		Date : 15/09/2022
Description of FAR				
List the FARs raised for Project Developer/CME:				
FAR 1. Demonstrate that VPA DD matches the inclusion criteria –“Specification of Technology/Measure” and “Additionality” as mentioned in the PoA-DD by stating whether the energy savings level is limited to 1.8GWh th. FAR 2. PD to supply supporting data for all parameters in time for validation/design review, or allocation may be delayed. This includes and is not limited to: ER spreadsheets, individual study calculations, survey results, study reports etc. FAR 3. PP shall ensure that Stakeholder Consultation include at least one public in-person meeting (as soon as Covid-19 restrictions ease) and one Stakeholder Feedback Round of lasting a minimum of 2 months. The physical meeting conducted during the stakeholder feedback round must follow all requirements listed in GS4GG Stakeholder Consultation and Engagement Requirements. FAR 4. All the attendees of LSC meeting shall be invited for further feedback/comment during SFR. FAR 5. As LSC is conducted after the start date, the PD shall provide further explanation of how comments received during the consultation are taken into account. FAR 6. VPA-PDD shall list all eligibility criteria as listed in the PoA-DD. The list mentioned does not include all criteria as mentioned in the PoA-DD. Also, the PD shall clearly include supporting evidence for each of the criteria for the underlying VPA. FAR 7. The VPA-DD shall clearly state and describe how it meets the eligibility requirements under Para 3.1.1 of the applied Community Service Activity Requirements. The current Para mentioned as 3.1.1 actually refers to condition under Para 2.1.2. FAR 8. Section A.3: The PP must include the technical specifications, and photos of all stove models. FAR 9. The draft SCR does not contain a safeguards assessment. The PD shall include the same in the SCR report and submit the updated SCR report. Refer GS Covid-19 Interim measures. FAR 10. Not all SGPs are assessed in the submitted VPA-DD. A draft assessment for all listed SGPs shall be conducted and included in the VPA-DD by the PD. Refer GS Safeguarding Principles and Requirements.				
Project participant response				Date : 19/09/2022

1. In the "TASC Zam VPA 3 ER calc sheet_v1.1" under the tab "Threshold Assessment" the energy savings per device is calculated. In this tab it is evident that the energy savings are 0.020 GWh which is far below the 1.8GWh. Thus, the VPA-DD is additional.
2. The supporting evidence have been supplied.
3. At the time of drafting the VPA-DD no LSC has been completed due to the Covid interim measures. An LSC will take place prior to the first verification.
4. All attendees at the LSC will be invited for further comments during the SFR.
5. Further explanations on how LSC comments were addressed will be provided after finalization of the LSC process and included in the LSC final LSC report.
6. All eligibility criteria as listed in PoA-DD has been included in the VPA-DD
7. Section B.5. has been amended to include Para 3.1.1.
8. Only the BURN Kuniokoa wood burning cookstove is being distributed in this VPA, thus Section A.3. is correct and complete.
9. The draft SCR has been amended to reflect a Summary of economic, social and environmental impacts of the project in section A.4 and is included as evidence.
10. In "Appendix 1 – Safeguarding Principles Assessment" all the SGP's are assessed.

Documentation provided by project participant

NA

DOE assessment**Date:** 19/09/2022

1. The threshold calculation is included in the ER sheet as well as under section B.5 of the VPA-DD.
2. PP has shared all the documents required in support of the parameters and the same have been verified by the VVB.
3. The stakeholder consultation requirements will be verified be during the first verification, FAR 01 is raised for the same.
4. To be verified with during the first verification.
5. To be verified during the first verification, once the LSC report is finalized.
6. The eligibility criteria for inclusion under the PoA are listed in the section B.2 of the VPA-DD, the evidence have been shared for the same.
7. The description of how the community service requirements is met by the VPA is included under section B.5 of the VPA-DD.
8. The photos and technical description of the stove model is included under section A.3 of the VPA-DD.
9. The draft SCR now consists of safeguarding requirements under section A.4.
10. Safeguarding Principles and Requirements are now assessed in detail under Appendix 1 of the VPA-DD.

Thus, the findings are closed

FAR ID	02	Section no.	Date : 02/09/2022
Description of FAR			
List the FARs raised for validating/verifying VVB:			
FAR 1. VVB shall conduct interviews with the locals especially women at the time of the validations.			
FAR 2. VPA lists more than 5 SDG Impacts, VVB shall assess this in detail during validation.			
Project participant response			Date : DD/MM/YYYY
NA			
Documentation provided by project participant			
NA			
DOE assessment			Date: 19/09/2022
FAR 1: VVB has raised FAR 01 for CME to conduct the LSC before first verification, since the LSC was not conducted at the time of validation, therefore the interview with local stakeholders shall be conducted before the first verification.			
FAR 2: The SDG impacted listed under this VPA have been assessed thoroughly and the same is described in detail under the section D.6 of the validation report			
<u>Thus, the finding is closed.</u>			

Table 2. CL from this verification

CL ID	01	Section no.	D.5.2	Date : 24/05/2022
Description of CL				
1. VPA DD does not mention the current distribution/implementation status of the VPA. Distribution database shared does not have dates. 2. Parameter $B_{b,y}$, applied a value 7.02. on review of other projects, it was observed CPA 9007-P1-0008-CP1 Distribution of Improved Cook Stoves in Sub-Saharan Africa Zimbabwe-CPA-008 applied Bold value as 5.06. CME shall explain how the applied value is justified				
Project participant response				Date : 28/07/2022
1. Start date of distribution and current implementation status added in section A.1. The lack of dates in the shared monitoring database was owing to a formatting issue in Excel showing numbers instead of dates. This has been corrected and resubmitted. 2. The value of 7.02 is not referenced in this VPA. The value applied in this VPA 3 is 6.44 and was established through in field baseline KPT's done on pre-project recipient households (see Section B.4)				
Documentation provided by project participant				
Revised VPA-DD				
DOE assessment				Date: 02/09/2022
1. The start date and implementation status are now described under section A.1 of the VPA-DD. The dates are now reflected in the distribution database correctly. 2. The value for B_{by} applied to this VPA is mentioned as 6.44 in the VPA-DD, the same has been verified from the KPT results and was found correct.				
Thus CL#01 is closed				

Table 3. CAR from this verification

CAR ID	01	Section no.	D.2	Date : 24/05/2022
Description of CAR				
1. CME has not used the latest template to prepare the VPA DD.				
Project participant response				Date : 28/07/2022
1. VPA-DD has been updated to most recent Template				
Documentation provided by project participant				
Revised VPA-DD				
DOE assessment				Date: 02/09/2022
The VPA-DD is now updated to the latest available version of the template i.e., version 2.0				
Thus CAR#01 is closed.				

CAR ID	02	Section no.	D.5.2	Date : 24/05/2022
Description of CAR				
1. Page 20 of VPA DD states average HH size as 5.1 as established from the baseline habit survey, Zambia DHS report says average HH size is 5. How is the value conservative. https://dhsprogram.com/pubs/pdf/SR265/SR265.pdf 2. Page 20, Household fuelwood consumption is written as 14,722,000. The value is 13,573,000 for 2019 and 13,059, 000 for 2017 as checked from the source. CME shall address the inconsistency and explain why latest data has not been referred. Moreover, Population of Zambia could not be confirmed.				
Project participant response				Date : 28/07/2022
1. The average HH size does not have any impact on the emissions reduction calculations, as				

fuel usage is established via KPTs. The data was established through baseline habit surveys on the directly affected population of the project. This is a rural area, it is well known that in rural areas, households tend to be larger. In the document referenced by the VVB, it is stated that rural women have on average 5.8 children compared to woman in urban areas who only have 3.4. Just from this it can be assumed that the value of 5.1 persons per household in rural Zambia is conservative as it is less than the average birth rate per woman in rural Zambia. Also, the value of 5 reference by the VVB does not distinguish between rural and urban population.

2. Table has been removed as we have established the baseline wood usage through in field kitchen performance tests (KPT's). The baseline value used was determined with KPT's conducted between 24/01/2022 - 03/03/2022 and is registered under VPA 1. This value is still relevant for use in VPA 3 as it was determined through surveys that the distribution area is homogeneous to that of VPA 1 and the starting date is within two years of VPA 1, as indicated through the correspondence with GS dated 31/05/2022.

Documentation provided by project participant

GS Correspondence titled "RE VPA baseline data 20220531"

DOE assessment

Date: 02/09/2022

1. The explain provided by the PP and the review of the supporting documents has provided the VVB sufficient evidence to establish that the value of 5.1 as the average household size derived through the baseline survey is acceptable.
2. The inconsistency has been now addressed by the PP and the correspondence with GS establishes the relevance of this value to the project activity.

Thus CAR#02 is closed

CAR ID	03	Section no.	D.3	Date :	24/05/2022
Description of CAR					
1. PoA DD does not have SDG 15 under section A.4 which has been listed under various sections of the VPA DD(table 1, A.3., section B.6. , B.6.3. How is VPA in line with the PoA DD. 2. PoA DD has SDG 12 under section A.4 which has not been listed under various sections of the VPA DD. How is VPA in line with the PoA DD.					
Project participant response					Date : 28/07/2022
1. SDG 15 has been removed and VPA-DD is consistent with PoA-DD. 2. SDG 12 has been added to VPA-DD.					
Documentation provided by project participant					
NA					
DOE assessment					Date: 02/09/2022
The SDGs applicable to the VPA and their description are now in line with the PoA-DD.					
Thus CAR#03 is closed					

CAR ID	04	Section no.	D.4	Date :	24/05/2022
Description of CAR					
1. Under section A.1.1. CME shall explain how the eligibility conditions have been met at VPA level. Please see the comments in the VPA DD 2. Additionality, Section B.5. , Para 1.2.5. of CSA requirements, Project activities that involve technologies and/or practices providing thermal energy to the user that have less than 20% adoption rate among the target users. The most recent available data on adoption rates shall be used to demonstrate compliance with the 20 per cent threshold in the target geographical area¹⁷. In no case shall data be used if older than three years from the date of commencement of validation of the project activity.					

Project participant response	Date : 28/07/2022
1. Eligibility conditions have been met and explanations are included in Section A.1.1. Table 1 of the VPA-DD entitled "Means of Verification/ Supporting evidence for VPA inclusion" 2. The section of the CSA Requirements referred to above does not exist. The VVB is requested to clarify. However, Par 1.1.5 of Annex B – Positive List states the above mentioned. Additionality has been met according to Par 1.1.3 of Annex B – Positive List of the CSA Requirements which states the following: "Project activities solely composed of isolated units where the users of the technology/measure are households or communities or institutions and where each unit results in ≤ 600 MWh of energy savings per year or ≤ 600 tons of emission reductions per year." Each unit included in the VPA will result in approximately 20 MWh of energy savings and are therefore deemed as additional. See calculations in ER Sheet "Threshold assessment".	
Documentation provided by project participant	
NA	
DOE assessment	Date: 02/09/2022
1. The eligibility conditions for inclusion under the PoA are now demonstrated in Table 1 under section A.1.1. and are found sufficient by the VVB to conclude the eligibility of this VPA for inclusion under the PoA. 2. The reference above was made to the para 1.1.5 of Annex-B of the CSA Requirements for project activities involving thermal energy related technologies., however PP has demonstrated the additionality in accordance with the Para 1.1.3 of CSA requirements, Under Section B.5 of the VPA-DD, the project activity is described as automatically additional, the calculation in the ER sheet shows that the energy saving by each unit amounts to 20 MWh which is less than the threshold value. Therefore, the criterion is met.	
Thus, CAR#04 is closed	

Table 4. FAR from this verification

FAR ID	01	Section No.	D.9	Date : 24/05/2022
Description of FAR				
CME shall conduct the LSC before the first verification of the VPA DD.				
Project participant response				Date : 28/07/2022
At drafting of the VPA-DD no in-person LSC activities have been completed, LSC will be completed prior to the first MRV.				
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY