

GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT

- VERIFICATION



Project Title:	PoA: GS 5562, Efficient and Clean Cooking for Mozambican Low-Income Households PoA VPA: GS 6155 Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA 1
Monitoring Period:	30/04/2020 to 31/03/2023 (Both days included)
GS project ID:	GS 6155
Internal ID:	BELL_PoA_GS_VER_8622
Customer:	Mozambique Carbon Initiatives Lda.(MpzCarbon)
Date:	06/05/2024
Revision:	04

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
BELL_PoA_GS_VER_8622	14/11/2023	04	06/05/2024
GS4GG Verification			
GS4GG Certified Product (sought):		GHG Emission Reductions	
GS4GG SDG Impact Statement (sought):		Impact Certification	
General Information			
Client	Mozambique Carbon Initiatives Lda.		
Project Title	Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA 1		
Project Participants	Mozambique Carbon Initiatives Lda.		
Project Location	Neighbourhood of 25 de Junho, Bagamoyo, George Dimitrov, Inhagoia, Inhagoia A, Nsalene, Magoanine A, Malhazine and Zimpeto (south) in Maputo, Mozambique		
Contact Person	Goodmore Chatora		
Monitoring Period	Monitoring Period No.3 30/04/2020 to 31/03/2023 ¹ (inclusive of both dates)		
GS4GG Version: GS4GG Principles and Requirements 1.2		GS4GG Sectoral Scope: 03 UNFCCC CDM Sectoral Scope: 03 Technical Area: 3.1	
GS4GG Programme of Activity Requirements, version 1.2			
Applied Methodology: AMS-II.G: Energy efficiency measures in thermal application of non-renewable biomass , version10.0			
Initial Monitoring Report Version: 01 Date: 06/06/2023		Final Monitoring Report Version: 08 Date: 27/04//2024	
Certified VPA PDD Version: version 03 (PRC) Date: 14/04/2021			
Estimated SDG Goals for current monitoring period			
SDG No	SDG title	Estimated Values	
1	No Poverty:		
	Percentage of decrease of the household monthly cost to buy fuel for cooking	94.3%	
	No. of staff hired to implement the project activities	0	
3	Good health and wellbeing:		
	Percentage of the users report the reduction of smoke levels in house	92.7%	
13	Climate action:		
	GHG emission reductions	79,917 ² tCO ₂ e	

¹ Monitoring period revised as per GS decision dated 14/03/2024 on PP's request for deviation.

	Number of people trained during the project implementation	0 Nos
Actual SDG Goals achieved during current monitoring period:		
SDG No	SDG Title	Actual Values
1	No Poverty	
	Percentage of decrease of the household monthly cost to buy fuel for cooking.	95.8%
	Number of staff hired to implement the project activities	184
3	Good health and wellbeing:	
	Percentage of the users report the reduction of smoke levels in house	93.9%
13	Climate Action:	
13	Emission Reduction	27,314 tCO ₂ e
	Number of people trained during the project implementation	264
Selected Sustainable Development Goals (SDGs): 1, 3 and 13		
Verification Summary		
LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Mozambique Carbon Initiatives Lda. to perform the 3rd periodical verification of "Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA" (GS ID 6155) applying the methodology AMS II.G, version 10.0. The management of Mozambique Carbon Initiatives Lda. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions. A desk review and a site visit have been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following have been reviewed: - The registered GS4GG VPA DD version 3.0/6/ including the monitoring plan; - Monitoring report(s); - The applied monitoring methodology; - Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board; - The Gold Standard for Global Goals "Principles and Requirements" Version 1.2 and GS4GG guideline and related Annex. - All information and references relevant to the project activity's resulting in emission reductions. The purpose of this Small-Scale Project Activity (VPA) is the dissemination of improved cooking stoves (ICS) in the neighborhood of 25 de Junho, Bagamoyo, George Dimitrov, Inhagoia, Inhagoia A, Nsalene, Magoanine A, Malhazine and Zimpeto (south) in Maputo, Mozambique. The Project Activity replaces conventional stoves using charcoal fuel with improved stoves using charcoal fuel. Applus+ Certification confirms that the project is implemented in accordance with the validated VPA-DD version 03. The monitoring plan complies with the applied methodology AMS II.G, version 10.0 and the Gold Standard for Global Goals "Principles and Requirements" version 1.2, GS4GG guideline the		

2 Annual Average as per the Ex-Ante spreadsheet and the Project Design Document (VPA-DD) is 24,595 tCO₂e per year (see registered VPA-DD), which is extrapolated to the duration of this reporting period to cover the entire Monitoring period. Years where the PDD estimated annual value was extrapolated are 2020 and 2023. Details of the extrapolation can be located in cells B10 and B13, tab "SDG summary_VPA 1" of the ER calculations spreadsheet.

monitoring has been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in 27,314 tCO₂e emission reductions/4/ during the period 30/04/2020 to 31/03/2023 (Both days included).

ASSESSMENT TEAM		
Team Members	Type of Resource ³	Organization (for OEs)
Lead Auditor: Mr. Jitendra Mohan Singh	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
TEiT: Ms. Karen E. Vega	☒ IR ☐ EI ☐ OE	M/s Applus+ Certification
Technical Reviewer: Mr. Miguel Cortés	☐ IR ☒ EI ☐ OE	M/s Applus+ Certification

Note: In line with the GS Rule Update RU 2020 PR – PR V1.2 dated on 02/04/2020, The VVB hereby discloses that the different team under VVB (Applus + Certification) i.e., Team Leader: Mr. Sukanta Das/ Pankaj Kumar and Technical Expert: Mr. Agustin Calle de Miguel performed the previous verification of this project according to the aforementioned requirement.

³ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

ABBREVIATIONS	
AM	Approved Methodology
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CL/CR	Clarification Request
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG (or GS)	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
UNFCCC	United Nations Framework Convention for Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

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1. INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Mozambique Carbon Initiatives Lda. To perform the 3rd periodical verification of "Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA 1" under the PoA – 'Efficient and Clean Cooking for Mozambican Low-Income Households PoA' (GS PoA ID GS5562) applying the methodology AMS II.G: Energy efficiency measures in thermal application of non-renewable biomass (version 10.0)/13/ and GS4GG guideline. Gold Standard projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Gold Standard VERs. The objective of the verification work is to assess the compliance with the requirements of paragraph 62 of the CDM Modalities and Procedures as well as the GS4GG guidelines and relevant Principles and Requirements. According to this assessment Applus+ Certification shall:

- Ensure that the project activity has been implemented and operated as per the registered GS4GG registered PDD version 3.0/6/ and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place;
- Ensure that the published MR/01/ and other supporting documents provided are complete, verifiable and in accordance with applicable CDM VVS for project activities version 03.0/14/ for the project activity and Gold Standard i.e., and GS4GG requirements/15/;
- Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- Evaluate the data recorded and stored as per the AMS II.G, version 10.0/13/

1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the VVB. The verification is based on the submitted monitoring report, the GS4GG requirements, previous verification reports and registered GS4GG VPA-DD version 3.0/6/ as well as its validation report/12/, the applied monitoring methodology AMS-II.G, version 10.0/13/, relevant decisions, clarifications and guidance from the CMP and the EB, GS4GG guideline and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures, GS4GG guidelines/15/ and relevant Principles and Requirements, as well as their related rules and guidance.

Based on the requirements in the CDM VVS for project activities version 03.0/14/ for the project activity as well as the GS4GG guideline, Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability

and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions. The verification also considers the monitoring of sustainable parameters.

The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

1.3 Description of the project activity

Title of PoA:	Efficient and Clean Cooking for Mozambican Low-Income Households PoA
VPA Title:	Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA 1
Gold Standard ID:	PoA GS ID: 5562 and VPA GS ID: 6155
Applied methodology:	AMS-II.G.:Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass, version 10.0
Crediting period:	14/02/2017 to 13/02/2024
Project Representative:	Mozambique Carbon Initiative Lda.
Coordinating/Managing Entity:Location of the project activity:	Neighbourhood of 25 de Junho, Bagamoyo, George Dimitrov, Inhagoia, Inhagoia A, Nsalene, Magoanine A, Malhazine and Zimpeto (south) in Maputo, Mozambique.

The purpose of this Small-Scale Project Activity (VPA) is the dissemination of improved cooking stoves (ICS) in the neighbourhood of 25 de Junho, Bagamoyo, George Dimitrov, Inhagoia, Inhagoia A, Nsalene, Magoanine A, Malhazine and Zimpeto (south) in Maputo, Mozambique. The Project Activity will replace conventional stoves using charcoal fuel with improved stoves using charcoal fuel. Stoves disseminated under this VPA are portable devices serving domestic users. The projects' GPS coordinates are 25°53'19.16" S, 32°33'56.76" E.

The project activity involves installation and operation of 100 MW AC solar power project in Pavagada district of Karnataka state in India. The VPA under the SSC-PoA has been implemented in a limited geographical area such as a county or district. The annual energy savings of each VPA shall not go beyond the limits of 180 GWhth/year over the entire crediting period according to General Guidelines to SSC CDM Methodologies version 23, EB 104, Annex 5. During this monitoring period, an average of total 8,416 ICS were operational⁴, resulting in the energy savings of approximately 144.87 GWh/yr. This is below the small-scale threshold of 180 GWhth/yr.

The project location details have been verified during the physical site visits during the current monitoring period and cross checked during the households visit (on-site visit)/7/.

Below are pictures of the stoves that are envisaged to be distributed and already distributed as part of the VPA. They include the Envirofit models CH2200 (charcoal), Econochar (charcoal), Rocket Works and Mbula stove (a stove with a metal sheet or aluminium with clay based charcoal rest).

⁴ A total of 10,457 were used. 8,416 is the average number of ICS based on total stove days (i.e. sum of all days the stoves were operational) and the monitoring period of 1186 days. This is to account for exact installation dates, replacement and retirement of stoves.



Figure 1 – Stoves to be used in the project

As per registered VPA-DD/6/, approximate energy savings per stove are 11,903 KWh/y. The total number of stoves that can be distributed under this VPA is 15,122 (Threshold Limit). The technical specifications of the ICS are as follows:

Stove Model	Thermal Efficiency	Manufacturer	Lifespan	Origin
Envirofit CH2200	33.09%	Envirofit International	5	Imported- Kenya
Envirofit Econochar	37.23%	Envirofit International	4	Imported – China
Rocketworks ChaZama	37.7%	Rocket Works Pty	5	Imported – South Africa
MbaulaPoupa+	30.5%	MozCarbon	5	Local Production

During current monitoring period, 12,577⁵ stoves were distributed as verified from the /Households/sales records/24/. The details of the distributed stoves in this VPA are as below:

Type of ICS	Total nos
Envirofit CH2200	646
Envirofit Econochar	4,847
Mbaula Poupa+	6,057
Rocketworks Chazama	1,027
TOTAL Stoves	12,577

2. METHODOLOGY

Applus+ Certification approach to the verification is a two-stage process. In the 1st stage, Applus+ Certification completed a strategic review and risk assessment of the project's activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and

⁵ The number of stoves within the lifespan each year is below the SSC limit.

- Compilation of the monitoring report.

Applus+ Certification used a periodical Verification Checklist which, based on the risk-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the 2nd stage, using the Verification Checklist, Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved interviewing PP representative during the site visit and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

2.1 Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center, S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center, S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center, S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA)
- Auditor (A)
- Technical Expert (TE)
- Technical Reviewer (TR)
- Any of the above-mentioned roles in training (iT, e.g. AiT for auditor in training).

The sectoral scope/technical area knowledge linked to the applied methodology(ies) is covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Jitendra Mohan Singh	LA/TE	YES	YES	NA	YES
Ms. Karen E. Vega	TEiT	NO	NO	NA	NO
Mr. Miguel Cortés	TR	YES	YES	NA	NA

The complete list of CVs is included as Appendix 2 of this report.

2.2 Document review

The Monitoring Report version 01/01/ was submitted to VVB before the verification activities started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- Verify the completeness of the data and the information presented in the MR /01/ &/ 02/;

- Check the compliance of the MR with respect to the monitoring plan depicted in the GS4GG Registered PDD/6/ and verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures were checked by the assessment team.
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.
- Please check Reference 4 of this report for detail of the documents checked.

2.3 On site assessment and follow up interviews

Sr. No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Chatora	Goodmore	CEO Mozcarbon	30/08/2023	Project implementation, Baseline emissions, ER calculations, Sustainable monitoring, employment, grievance etc.	Mr. Jitendra Mohan Singh (LA)
2.	Cumbana	Micas	COO, MOZcarbon	30/08/2023	Project implementation, Project Monitoring and reporting, calibration, employment, trainings	
3.	Xerinda	Norato	Monitoring & Certification Manager, Mozcarbon		Project implementation, Project Monitoring and reporting, calibration,	
4.	Mata	Francisco	Monitoring of data Mozcarbon	13/03/2023	Project implementation, Project Monitoring and reporting,	
5.	Manjate	Hortência	Administrator	30/08/2023	Sales records/tranings	

			Mozcarbon		/Grievances	
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Household samples checked during on-site visit:

Verification team has applied acceptance sampling in accordance with para 39, Table 2 Sample size and acceptance number based on AQL, UQL, and producer and consumer risks” of standard “Sampling and surveys for CDM project activity and programme of activities” version 09.0. The verification team determined the minimum sample size (n) as 09 and acceptance number (c) as 0. The sample size used to verify the reported values for the monitored parameters which are determined through sample survey by CME. The DOE interviewed the improved charcoal stove users and filled the VVB survey form to check the acceptability of the data for each record in the CME’s sample records (Refer details in Implementation of sampling plan in Section 3.4 of this report.

S. No.	Stove Number	Type of stoves selected randomly from surveyed database.	ICS Owner Name	Date of visit/interview
1	23116	Mbaulta Poupa+	Marta Chilegue	30/08/2023
2	MCI-M006053	Mbaulta Poupa+	Sonia Salomao	
3	21361	Mbaulta Poupa+	Beatriz Almeida Chirindza	
4	9972	Mbaulta Poupa+	Angelina Mário Massuca	
5	8327	Mbaulta Poupa+	Gina Castro	
6	6485	RocketWorks Chazam	Nordino Jaime	
7	BR00108	Mbaulta Poupa+	Flora castigo	
8	MCI-M000950	Mbaulta Poupa+	Fatima saide	
9	MCI-M001275	Mbaulta Poupa+	Xavier Samuel	

The objective of the on-site assessment is to:

- Confirm the implementation and operation of the project;
- Review the data flow for generating, aggregating and reporting the monitoring parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- Check the monitoring equipment against the requirements of the PoA-DD (version 03.0, dated 04/04/2019)/5/ and VPA-DD (version 3.0 dated 14/04/2021/6/ and the approved methodology, including maintenance, etc.;
- Review the calculations and assumptions used to obtain the GHG data and ER;
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.
- Confirm the SDG goals/ Sustainable monitoring parameter as per the registered PoA-DD.
- Confirm the SDG goals/ Sustainable monitoring parameter as per the registered GS4GG registered PDD Version 03 /6/.
- To understand grievance (if any) from the end-users during the monitoring period.

2.4 Quality of evidences

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR Version 08/2/. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

2.5 Reporting of findings

As an outcome of the verification process, the assessment team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

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

The assessment team shall raise a Clarification Request (CR) if information is insufficient or not clear enough to determine whether the applicable CDM/GS requirements have been met.

All CARs and CRs raised during verification shall be resolved prior to submitting a request for issuance.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period.

Total Numbers of CARs: 04, CL: 05, FARs: 00 from this verification and 01 FAR from previous verification. Please refer Appendix 1 of this report for further details.

2.6 Internal Quality Control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the VVB's Technical Manager or the Deputy. This approval process also includes another quality assurance check in terms of Administrative Review. In case one of these two persons is part of the assessment team, the final approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily

approved, the Request for Issuance is submitted to the GS Registry along with the relevant documents.

3. VERIFICATION FINDINGS

3.1 FARs from Validation / Previous Verification

This is 3rd periodic verification for the project activity and one FAR was raised during previous verification (MP: 01/01/2018 to 31/12/2019) which is applicable to this monitoring period as well and has been elaborated in Appendix 1. The details of FAR is as follows:

The VVB in charge of the subsequent verification is requested to confirm the CME has implemented a mechanism in order to:

- Prevent the non-identifiable nameplates of the stoves (as a picture of a stove provided has the nameplate burnt and the ID cannot be recognized properly).
- Prevent ICS that can be moved beyond the PoA and/or VPA boundary because the users ceded the device to other persons by buying multiple devices or causing multiple devices can be bought by a single user (as happened in the case of Ms. Eunicia Jaime).
- As a result of the sampling exercise, it is noted that approximately 30% of the users are not sure/do not know how to contact CME in case of need for replacement or other concerns. The CME needs to address this situation.

VVB has checked the measures taken by the CME against the previous FAR and found that CME has implemented all measures of FAR during the current monitoring period:

- The Serial number of stoves were punched on the stove as found during the site visit. It could be a possibility that Sr.Nos. are not captured in pictures. PD has also rectified these issues to punch the details on stoves itself. Comment closed.
- Through interviewed and checking of sales records/database it is confirmed that only one stove was purchased by the end user for giving gift to another family (refer case). Moreover, these stoves were not found in database used for calculation of emission reductions. Further, in accordance with the Section E.1 of the registered PDD, if 2 project devices are installed per household, 0.5 times the baseline woody biomass consumption per household ($B_{old,HH}$) is used as the total annual quantity of woody biomass that would have been used in the absence of the project activity in each device ($B_{old,i,j}$). Thus, acceptable to VVB.
- VVB observed during the on-site visit (physical site visits) that CME has provided additional training to end users understand how to contact the project developer in case of any grievances or other issues related to stoves and the project. The same was observed during the households' visits and training record submitted by CME. Carbon waiver (sales agreement) and leaflets distributed to each householder. It was also found the CME has deputed sales/technical persons in the project area to look after the such type of issues as found through interview with end-users.

Thus, FAR closed.

Findings:

The FAR of previous verification (FAR 01) was raised for CME response and the elaborated in Appendix 1 of this report.

Opinion:

A FAR was raised in the previous verification which is closed during the current verification.

3.2 Project Implementation in accordance with the registered Project Design Document

The project activity was fully implemented according to the description presented in the GS4GG revised registered VPA-PDD version 3.0/10/. The assessment team confirms, through the physical inspections and interview with end-users during households visit that all physical features of the proposed project activity including data collecting systems and storage have been implemented in accordance with the GS4GG registered VPA-DD, version 3.0 /6/ and found consistent. The description of implemented project activities are as follows:

Project Participants	Mozambique Carbon Initiative LDA
Title of project activity	Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA 1
GS Registration No.	GS6155
Baseline and monitoring methodology	AMS-II.G. Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass, version 10.0
Project type	The purpose of this Small-Scale Project Activity (VPA) is the dissemination of improved cooking stoves (ICS)
Project scale	Small scale
Location of the project activity	Neighbourhood of 25 de Junho, Bagamoyo, George Dimitrov, Inhagoia, Inhagoia A, Nsalene, Magoanine A, Malhazine and Zimpeto (south) in Maputo, Mozambique
Project's crediting period	14/02/2017 to 13/02/2024 (1 st Crediting Period)
Total duration of the project	7 years (Renewable crediting period)
Period verified in this verification	30/04/2020 to 31/03/2023 (Inclusive of both days)

As observed during the physical site visit/interviews with users, the verification team was able to confirm that the project implementation is in accordance with the project description contained in the registered GS PoA-DD/5/ and VPA-DD/6/.

The purpose of this Small-Scale Project Activity (VPA) is the dissemination of improved cooking stoves (ICS) in the neighbourhood of 25 de Junho, Bagamoyo, George Dimitrov, Inhagoia, Inhagoia A, Nsalene, Magoanine A, Malhazine and Zimpeto (south) in Maputo, Mozambique. The Project Activity will replace conventional stoves using charcoal fuel with improved stoves using charcoal fuel. Stoves disseminated under this VPA are portable devices serving domestic users.

The project activity is implemented in line with the validated PoA-DD/5//CPA-DD/6/ i.e. dissemination of charcoal based improved stoves in the host country of Mozambique to the households previously using the conventional stoves. In total 11,319 stoves are operational in this monitoring period and accordingly used for the emission reduction calculations/2/. The total number of cook-stoves credited till the end of this monitoring period verified from stoves sale data base and found to be correct

During this monitoring period, only improved charcoal stoves were distributed within the project boundary. The GHG offset during the current monitoring period is 27,314 tCO₂e.

During the physical site visits, the audit team checked the design and technology of stoves of different users, which are in line with the description provided in validated PoA-DD/CPA-DDs and technical drawing provided by the CME.

During the previous monitoring period, the following changes approved by GS:

- The leakage calculation shall be done based on AMS-II G v.10.0 methodology, which means that a 5% of the total biomass savings shall be accounted as leakage.
- The range of the age and average lifetime of the equipment based on the manufacturer's specifications and industry standards.
- The Fraction of Non-Renewable Biomass (fNRB) is indicated in the PoA-DD as a parameter to be monitored. The project developer pretends to move this parameter to be fixed ex-ante, taking into account that changes in biomass occur over a relatively long period thus, no need to annually be monitored. In this case, the fNRB value is determined once, thus no monitoring and recalculation of the fNRB value during the crediting period is required.

The above design changes were approved by GS submitted through Design Change Review on 23/04/2021.

VVB confirmed that there are no changes in monitoring plan from the revised registered PDD (PRC), version 3 dated 14/04/2021. The Monitoring parameter related to SDGs are mentioned in Section B.5.2 "Sustainability Monitoring Plan" of the GS PDD. Project Developer has included those parameters as a monitoring parameter in monitoring plan. This is because of PDD template used for registration. The similar practice was adopted in previous verification too. Further, Sustainability Monitoring Plan" shows the parameter considered in the time of first verification ("Chosen Parameter") and the "Future Target of the Parameter" for use after the transition to GS4GG. Also, VVB confirms that parameters were monitored according to registered VPA and Transition Annex to GS4GG. The parameters are included in Monitoring tables as SDG parameters have to be presented in the Monitoring Report. Moreover, PD has also included in Section B 2.4. of revised MR.

The parameter tables added are:

- Efficiency Loss Factor: is not included in the registered PDD as a separate monitoring parameter (only mentioned that Monitoring Reports/ ex-post calculations will include the detailed determination of the efficiency loss). However, "efficiency loss factors" has been added here in the Monitoring Report as a separate parameter for clarity as it is necessary factor to be accounted in ER calculations. This was approved in previous performance Review.
- Number of people trained during the project implementation (related to SDG#13)
- Percentage of decrease of the household monthly cost to buy fuel for cooking (related to SDG#1)
- Number of staff hired to implement the project activities (related to SDG#1)

- Percentage of the users report the reduction of smoke levels in house (related to SDG#13)

The above are approved in previous Performance Review No.2. There is no addition or removal of parameters during the current monitoring period.

The current verification is based on revised VPA PD, version 3.0, dated 14/04/2021/6/. There are no changes observed during the current verification. Verification team confirms that monitoring procedure of GHG data is found sufficient and in accordance with the procedures stipulated under the registered monitoring plan.

Further, VVB has checked difference program of GHGs reductions including UNFCCC, VERRA, GS4GG and confirmed that the current project is not registered as a separate GS project activity, nor included as part of another registered GS (or other carbon standard) PoA nor that the project activity has been deregistered. Further, PD has submitted a letter signed by the VPA implementer/CME dated 16/01/2024 confirming no double counting. PD has also confirmed the same in Section C of the Monitoring Report

The timeline of the project's implementation are as follows:

Milestone of the project activity	Timeline	Assessment by the verification team
Registration of the project activity under GS4GG Principles and Requirements version 1.2	13/02/2019	Date of registration confirmed with GS4GG registry and found to be correct. https://registry.goldstandard.org/projects/details/1084
1 st Crediting period: 14/02/2017 to 13/02/2024		
1 st Monitoring period	14/02/2017 - 31/12/2017	Verification team has verified same from the registered documents available at GS registry.
2 nd Monitoring period	01/01/2018 - 31/12/2019	Verification team has verified same from the registered documents available the GS registry.
Permanent changes to design project design approved by GS	24/06/2022	The following permanent changes were approved by GS during the previous periodic verification: 1. The leakage calculation shall be done based on the applied methodology AMS-II.G, Version 10.0, which means that a 5% of the total biomass savings shall be accounted as leakage. As per the methodology AMS-II.G. paragraph 34, the leakage will be accounted by multiplying $B_{y,savings,i,j}$ by a 0.95 factor, for which surveys are not required. 2. There were two contradictory statements in relation to the lifespan of the ICS in the registered PoA /5/and VPA-DD/6/. Further, the programme includes several ICS models with different specifications and lifespans. Therefore, the corrected lifespans will be used for individual cookstove types based on

		manufacturer specifications. Therefore, the following corrected lifespans will be used for individual cookstove types based on manufacturer specifications and experience: • Envirofit,Econochar 4 years • RocketworksChazama 5 years • EnvirofitCH2200m5 years • MbaulaPoupa+5 years The summarized stove specifications are detailed in Section B.1 of the revised Monitoring Report. Detailed technical descriptions and pictures of the stoves implemented in the project are presented in the Water Boiling Test Reports. 3. The Fraction of Non-Renewable Biomass (f_{NRB}) is indicated in the PoA-DD as a parameter to be monitored. The project developer intends to move this parameter to be fixed ex-ante, taking into account that changes in biomass occur over a relatively long period thus, no need to annually be monitored. In this case, the f_{NRB} value is determined once, thus no monitoring and recalculation of the f_{NRB} value during the crediting period is required. VVB confirms that there are no deviation/correction and changes in designed applied by the PP/CME during the current monitoring period.
3 rd monitoring period	30/04/2020 – 31/03/2023	This is current verification period. As per GS decision during the performance review of current monitoring period dated 14/03/2024, the Project developer cannot claim VERs for the lost period (4 months) before the threshold of 3 years from the date of the recent (Third) site visit (30/08/2023). Thus, as per GS decision, VVB is verifying the Monitoring period 30/04/2020- 31/03/2023.

Assessment of actual emission reductions with the estimate emission reductions in revised registered VPA-DD, version 3.0./6/:

Estimated Emission Reduction as per registered VPA DD	71,786tCO₂e(rundown) As per registered VPA DD/6/, the estimated emission reductions is 22,311 tCO₂e/year, which is extrapolated to the duration of this reporting period of 1186 days, i.e. 71,786 tCO₂e.	
	Period	Estimated value ERs (tCO ₂ e)
	30/04/2020-31/12/2020	16,531
	01/01/2021-31/12/2021	24,595
	01/01/2022-31/12/2022	24,595
	01/01/2023-31/03/2023	6,065

	TOTAL	71,786 (rundown)
Actual Emission Reduction for the monitoring period	27,314 tCO ₂ e	
Is any increase of VERs occurred?	No	
Reason for increase of VERs	Emission reductions are lower than ex-ante estimated value for the current monitoring period.	

Verification team confirms that actual emission reduction is lower than the estimated values for the ex-ante estimate value for the current monitoring period.

The actual value of $N_{y,i,j}$ i.e. 'Number of project devices of type i and batch j operating during year y' during current monitoring period are as below:

Stove Model	$N_{y,i,j}$
Mbaulta	5,451
Rocketworks Chazama	9,24
Envirofit Econochar	4,362
Envirofit CH2200	5,81
TOTAL	11,319

(Refer Tab 'ER Calculation VPA1' in ER sheet)

During the previous monitoring period, a total of 8,424 stoves were distributed.

Type	$N_{y,i,j}$
Envirofit Econochar	3,908
Rocketworks Chazama	860
Envirofit CH2200	521
Mbaulta Poupa+	3,135
TOTAL	8,424

Thus, ICS are distributed during the current monitoring period are more than the previous monitoring period.

Verification team considers the project and monitoring description of the project contained in the Monitoring report to be complete and accurate. The Monitoring report complies with the relevant methodology, tools, forms and guidance which are in line with that available in the revised registered GS4GG VPA-DD, version 3.0/6/.

Finding:

CL 01, CL02, CL03, CL04 & CL05 were raised and elaborated in appendix 1 of this report. FAR is raised which is also elaborated in appendix 1.

Opinion:

a) In opinion of the assessment team the implementation and operation of the project activity is in compliance with the description in the VPA-DD version 3.0/6/.

b) There is a no revision/deviation in monitoring plan during the current monitoring period.

c) The actual emission reductions for the current monitoring period are 27,314 tCO₂e which are lower than the estimated ERs (71,786 tCO₂e) for the comparable period.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

The verification team is able to confirm that the monitoring plan contained in the registered PoA-DD and VPA-DD are in accordance with the applied approved methodology AMS II.G: Energy efficiency measures in thermal application of non-renewable biomass, version 10.0/13/.

During the verification all relevant monitoring parameters (as listed in the VPA-DD) have been verified with regard to the appropriateness of the applied measurement/determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures.

The monitoring is in accordance with the applied methodology and has been carried out in accordance with the monitoring plan contained in the registered VPA-DD/6/. Discussion regarding each parameter has been elaborated in the further sections of this report.

During the verification all relevant monitoring parameters (as listed in the MR) have been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures.

The Assessment team is able to confirm that the monitoring plan contained in the GS4GG VPA DD, Version 03/6/ is in accordance with the approved methodology applied by the project activity AMS-II.G: Energy efficiency measures in thermal application of non-renewable biomass, version 10.0.

Finding:

No findings raised.

Verification Opinion:

The monitoring plan mentioned is in line with the applied methodology AMS II.G, version 10.0/13/.

The monitoring mechanism is in line with the methodology and is effective & reliable. No deviation, correction or permanent change to the monitoring plan has been requested or observed.

3.4 Completeness of Monitoring

The monitoring has been carried out in accordance with the monitoring plan contained in the PoA- DD/5/ and VPA-DD/6/. During the course of verification, all relevant monitoring parameters have been verified with regard to the appropriateness of the applied measurement/determination method and applied QA/QC procedures. It is confirmed that the monitoring parameters have been measured / determined without material misstatements.

The verification team reviewed the actual monitoring during the skype interview and from document review and compared it against the requirements of the monitoring plan in the GS4GG VPA-DD/6/ and found in line.

The Assessment team assessed the monitoring techniques and each monitoring value in the monitoring report; and provided a short summary on the verification of every parameter listed in the monitoring plan and used for calculation of emission reductions.

a. Data and parameters fixed ex ante or at renewable of crediting period

S. No.	Ex-ante Parameter and unit	Description	Value	Consistent with the VPA-DD & the source mentioned in it
1.	Charcoal use per standard adult/day SDG 13	Where charcoal is used as the fuel by baseline (old) or project (new) devices, the quantity of woody biomass shall be determined by using a default wood to charcoal conversion factor of 6 kg of firewood (wet basis) per kg of charcoal (dry basis). Alternatively, credible local Conversion factors determined from a field study or literature may be applied.	Baseline=0.74 kg; Project = 0.22 kg	The value is considered from baseline data as per the registered VPA-DD. Hence, acceptable to the verification team.
2.	$B_{old,p}$ tonnes/person/year SDG 13	Annual quantity of woody biomass that would have been used per person in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices	2.76	The value is considered from baseline data as per the registered VPA-DD. Hence, acceptable to the verification team.
2.	$N_{p,HH}$ Number SDG 13	Average number of persons served per household prior to project Implementation	3.74	The value is considered from baseline data as per the registered VPA. Hence, acceptable to the verification team.
3.	$N_{d,HH}$ Number SDG 13	Number of project devices per household	1	Number of ICS distributed per household is limited to one under this ICS distribution programme. The distribution data is compiled in a database. Hence, acceptable to the verification team.
4.	$B_{old,HH}$	Annual quantity of woody biomass that would have	10.32	The value is Result of the multiplication of $B_{old,p}$ by

	tonnes/household/year SDG 13	been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices		$N_{p,HH}$. Hence, acceptable to the verification team.
5.	$B_{old,I,J}$ Tonnes/year SDG 13	Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type i and batch j	10.32	The value is Result of the $B_{old,HH}$ divided by $N_{d,HH}$. Hence, acceptable to the verification team.
6.	$f_{NRB,y}$ (Fraction) SDG 13	Fraction of woody biomass saved by the project activity during year y	0.91	The values were fixed at the time of validation of VPA-DD. The considered value is default value for country specific fraction of non-renewable woody biomass (f_{NRB}) value, available on the CDM website. Hence, acceptable to the verification team.

The values of ex-ante fixed parameters have been verified from the VPA-DD/6/. The verification team confirms that the values used/applied are correct and justified. Also, the ex-ante values have been correctly applied in the calculation of emission reductions.

Finding:

CAR 01 & CAR 02 raised and are elaborated in appendix 1 of this report.

Opinion:

During the verification all monitoring parameters listed in Section D.2 of MR were compared with monitoring parameters and the monitoring plan of the registered VPA-DD/6/ and have been verified with regard to the:

- appropriateness of the applied measurement / determination method,
- the correctness of the values applied for ER calculation,
- the accuracy, and applied QA/QC measures.

b. Data and parameters monitored

Relevant SDG Indicator	SDG #13
Data/parameter:	$N_{y,i,j}$
Unit	-
Description	Number of project devices of type i and batch j operating during year y.
Measured/calculated/default	Measured

ult													
Source of data	The data is based on based on a representative sample selected based on Sampling standard is used for determining the sample size to achieve 90/10 confidence precision. CME has applied discount based on the percentage of devices operational as determined by the sample survey e.g. if survey shows that 10% of the devices is non-operating, an adjustment factor of 0.9 is applied to number of project devices commissioned in a particular batch. Separate samples were taken for each batch.												
Value(s) of monitored parameter	<table border="1"> <thead> <tr> <th>Stove Model</th><th>N_{y,i,j}</th></tr> </thead> <tbody> <tr> <td>Mbaulta</td><td>5,451</td></tr> <tr> <td>Rocketworks Chazama</td><td>924</td></tr> <tr> <td>Envirofit Econochar</td><td>4,362</td></tr> <tr> <td>Envirofit CH2200</td><td>5,81</td></tr> <tr> <td>TOTAL</td><td>11,319</td></tr> </tbody> </table> Values are reported in ER spreadsheet ("ER Calculations VPA1" cells H12582 to H12586') found consistent with the survey data and distribution list/sales records/.	Stove Model	N _{y,i,j}	Mbaulta	5,451	Rocketworks Chazama	924	Envirofit Econochar	4,362	Envirofit CH2200	5,81	TOTAL	11,319
Stove Model	N _{y,i,j}												
Mbaulta	5,451												
Rocketworks Chazama	924												
Envirofit Econochar	4,362												
Envirofit CH2200	5,81												
TOTAL	11,319												
Monitoring equipment	-												
Measuring/reading/recording frequency:	At least once every two years (biennial)												
Calculation method (if applicable):	-												
QA/QC procedures:													
Cross Checks	Cross-checks with sales contracts/24/.												

Relevant SDG Indicator	SDG #13
Data/parameter:	H _y
Unit	Fraction
Description	Adjustment to account for any continued use of pre-project devices during the year y
Measured/calculated/default	Measured
Source of data	The value has been sourced from Survey reports/24/ which is calculated as Number of meals cooked with the ICS per week divided by the total number of meals cooked per week.
Value(s) of monitored parameter	0.90
Monitoring equipment	-
Measuring/reading/recording frequency:	At least once every two years (biennial). In this case annual surveys are conducted.

Calculation method (if applicable):	The value is calculated based on the surveyed data by CME/PP. The same is calculated as Number of meals cooked with the ICS per week divided by the total number of meals cooked per week. VBB has checked the calculation in Ex-post ER calculations spread sheet under tab "Metrics" /4/ and found correct.
QA/QC procedures:	-
Cross Checks	-

Relevant SDG Indicator	SDG #13								
Data/parameter:	Lifespan								
Unit	Number of years								
Description	The operating lifetime of the project device. The operating life time of the project device. The life span should be reported in cases where the PPs are opting to account the efficiency loss as per paragraph 25.								
Measured/calculated/default	This value is the average lifespan of the four different devices used in the project								
Source of data	Manufacturer's specifications								
Value(s) of monitored parameter	<table> <tr> <td>Envirofit Econochar</td> <td>4 years</td> </tr> <tr> <td>Rocket Works Chazama</td> <td>5 years</td> </tr> <tr> <td>Envirofit CH2200</td> <td>5 years</td> </tr> <tr> <td>Mbault Poupa+</td> <td>5 years</td> </tr> </table>	Envirofit Econochar	4 years	Rocket Works Chazama	5 years	Envirofit CH2200	5 years	Mbault Poupa+	5 years
Envirofit Econochar	4 years								
Rocket Works Chazama	5 years								
Envirofit CH2200	5 years								
Mbault Poupa+	5 years								
Monitoring equipment	-								
Measuring/reading/recording frequency:	Fixed and recorded at the time of commissioning/distribution								
Calculation method (if applicable):	As per manufacture specifications.								
QA/QC procedures:	The lifespan should be reported in cases where the PPs are opting to account the efficiency loss as per paragraph 25 of the CDM methodology AMS-IIG.								
Cross Checks	-								

Relevant SDG Indicator	SDG #13
Data/parameter:	$\eta_{new,i,j}$
Unit	Fraction
Description	Efficiency of the device of each type <i>i</i> and batch <i>j</i> implemented as part of the project activity.
Measured/calculated/default	Measured
Source of data	The values are source from the following reports/8/: Mbault Poupa: Thermal Efficiency Test Report Stove" by Biomass Energy Center of Testing (BECT)

	Rocketworks ChaZama: Thermal Efficiency Test Report Stove” by Biomass Energy Center of Testing (BECT) Envirofit CH2200: Thermal Efficiency Test Report Stove” by Biomass Energy Center of Testing (BECT). Envirofit Econochar: Thermal Efficiency Test Report Stove” by Biomass Energy Center of Testing (BECT).
Value(s) of monitored parameter	Envirofit CH2200: 33.09% Envirofit Econochar: 37.23% Rocketworks ChaZama: 37.70% Mbaula Poupa+: 30.50%
Monitoring equipment	Water Boiling Tests conducted by the Biomass Energy Center of Testing (BECT) / GIZ /EnDev Mozambique, which is an accredited by the Clean Cooking Alliance ⁶ . VVB has checked the reports and confirms that the efficiency of the stoves are consistent with the reports/8/. Water Boiling Tests applying the WBT procedures specified by the partnership for clean indoor air (PCIA): http://www.pciaonline.org/testing . The procedures mentioned on the website were cross checked to confirm that same were followed by WBT conducting agencies as evident and found consistent.
Measuring/reading/recording frequency:	(i) Recorded at the time of commissioning/distribution (ii) Adjusted for the loss if efficiency as paragraph 25 of the AMS-II.G: methodology.
Calculation method (if applicable):	-
QA/QC procedures:	Water Boiling Tests applying the WBT procedures specified by the partnership for clean indoor air (PCIA): http://www.pciaonline.org/testing
Cross Checks	-

Relevant SDG Indicator	SDG #13
Data/parameter:	NCV_{biomass}
Unit	TJ/tonne
Description	Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices.
Measured/calculated/default	Default
Source of data	IPCC default for wood fuel, 0.015 TJ/tonne, based on the gross weight of the wood that is 'air-dried' may be used if fuel used in project device is also woody biomass. If fuel used in the project device is charcoal, 0.029 TJ/tonne may be used.

⁶ <https://www.cleancookingalliance.org/technology-and-fuels/testing/centers.html>

Value(s) of monitored parameter	0.0156
Monitoring equipment	-
Measuring/reading/recording frequency:	Yearly
Calculation method (if applicable):	As per VPA DD, this is monitoring parameter and fixed to 0.0156 0.015 TJ/tonne which is IPCC default value. The value used by CME is consistent with the value mentioned in VPA DD/6/.
QA/QC procedures:	-
Cross Checks	-

Relevant SDG Indicator	SDG #13
Data/parameter:	$\eta_{old,i,j}$
Unit	%
Description	Efficiency of pre-project device, which is a three stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney; for other types of devices, a default value of 0.2 may be optionally used (as per GS PDD). Use weighted average values (taking the amount of woody biomass consumed by each device as the weighting factor) if more than one type of device is being replaced.
Measured/calculated/default	Measured
Source of data	Thermal Efficiency Test Report (Water Boiling Tests Report)/8/.
Value(s) of monitored parameter	21.28%
Monitoring equipment	Water Boiling Tests applying the WBT procedures specified by the partnership for clean indoor air (PCIA): http://www.pciaonline.org/testing . The procedures mentioned on the website were cross checked to confirm that same were followed by WBT conducting agencies as evident through the reports submitted.
Measuring/reading/recording frequency:	Fixed for each individual household when included in the project activity database.
Calculation method (if applicable):	-
QA/QC procedures:	Water Boiling Tests applying the WBT procedures specified by the partnership for clean indoor air (PCIA): http://www.pciaonline.org/testing
Cross Checks	The efficiency is related to pre-project device, fixed in VPA-DD, version 3.0 dated 14/04/2021 and the value in MR is found consistent with the VPA DD.

Relevant SDG	SDG #13
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Indicator	
Data/parameter:	Date of commissioning of project device i
Unit	Date
Description	Actual date of commissioning of the project device.
Measured/calculated/default	Measured
Source of data	Internal records
Value(s) of monitored parameter	29/3/2019 – 31/03/2023 (ER Spreadsheet tab "Stove Distribution") Verification team checked the commissioning dates of stoves with surveyed records and confirms that the stoves were distributed between 29/03/2019 – 31/03/2023, The have been cross checked with the sales contracts also.
Monitoring equipment	Fixed and recorded at the time of commissioning/distribution
Measuring/reading/recording frequency:	This value is fixed and recorded at the time of commissioning/distribution.
Calculation method (if applicable):	-
QA/QC procedures:	-
Cross Checks	Cross-check with sales contracts

Relevant SDG Indicator	SDG #13
Data/parameter:	Efficiency loss factor ⁷
Unit	Fraction
Description	Adjustment factor to account the loss in efficiency of the project devices i in each batch j due to aging during the monitoring period
Measured/calculated/default	Default value
Source of data	CDM methodology default value
Value(s) of monitored parameter	Envirofit CH2200 2.62% Envirofit Econochar: 4.31% Rocketworks ChaZama: 3.54% Mbaulta Poupa+: 2.10%
Monitoring equipment	N/A
Measuring/reading/recording frequency:	Fixed and recorded at the time of commissioning/distribution
Calculation method (if applicable):	In line with the para 32 of the applied CDM methodology AMS-II.G a default schedule of linear decrease in efficiency up to the

⁷ "Efficiency loss factors" is not included in the registered PoA-DD as a separate monitoring parameter (only mentioned that Monitoring Reports/ ex-post calculations will include the detailed determination of the efficiency loss). However, "efficiency loss factors" has been added here in the Monitoring Report as a separate parameter for clarity as it is necessary factor to be accounted in ER calculations. Refer the cell AV4, AV5, AV6 and AV7 within the ER spreadsheet, tab "ER Calculations VPA1". The efficiency loss is factored in the calculations.

	terminal efficiency assumed as 20 per cent shall be applied through the life span of the project device . For example, if the life span of project device is five years and project device has an efficiency of 30 per cent at commissioning then a 2 per cent decrease in efficiency every year shall be applied. Refer the cell AV4, AV5, AV6 and AV7 within the ER spreadsheet, tab "ER Calculations VPA1". The efficiency loss is factored in the calculations.
QA/QC procedures:	-
Cross Checks	-

Relevant SDG Indicator	SDG #13
Data/parameter:	Date of commissioning of project batch j
Unit	Date
Description	Actual date of commissioning of the latest device within the batch
Measured/calculated/default	Measured
Source of data	Internal records
Value(s) of monitored parameter	29/3/2019 – 31/03/2023, Refer the ER Spreadsheet tab "Stove Distribution". The commissioning dates were verified from the distribution list of PP/CME and the same have been cross verified with the stove sales agreement with users. The same is verified from the distribution records and cross verified with the stove sales agreement. The distribution dates of each stove are provided in Ex-post Emission Reductions calculation spread sheet. Verifier has also checked the database of selected samples in CME computer database be during the on-site visit and found consistent.
Monitoring equipment	Fixed and recorded at the time of commissioning/distribution
Measuring/reading/recording frequency:	-
Calculation method (if applicable):	-
QA/QC procedures:	-
Cross Checks	Cross-check with sales contracts

Relevant SDG Indicator	SDG #13
Data/parameter:	Number of people trained to promote the ICS and for monitoring purposes.
Unit	Number
Description	Improvement of institutional capacity on climate change mitigation through training of people to promote ICS.
Measured/calculated/default	Measured

Source of data	The values are sourced from the training attendance sheet/List of attendees of trainings/10/.												
Value(s) of monitored parameter	Total 264 <table border="1"> <thead> <tr> <th>Vintage</th><th>Number</th></tr> </thead> <tbody> <tr> <td>30/04/2020-31/12/2020</td><td>18</td></tr> <tr> <td>01/01/2021-31/12/2021</td><td>40</td></tr> <tr> <td>01/01/2022-31/12/2022</td><td>126</td></tr> <tr> <td>01/01/2023-31/03/2023</td><td>80</td></tr> <tr> <td>TOTAL</td><td>264</td></tr> </tbody> </table> The number of peoples trained during the project Implementation has been verified from the list of training attendees/10/ provided by PP/CME vintage wise. The number of persons attending training sessions are recorded on attendance sheet after each training	Vintage	Number	30/04/2020-31/12/2020	18	01/01/2021-31/12/2021	40	01/01/2022-31/12/2022	126	01/01/2023-31/03/2023	80	TOTAL	264
Vintage	Number												
30/04/2020-31/12/2020	18												
01/01/2021-31/12/2021	40												
01/01/2022-31/12/2022	126												
01/01/2023-31/03/2023	80												
TOTAL	264												
Monitoring equipment													
Measuring/reading/recording frequency:	Annually												
Calculation method (if applicable):	-												
QA/QC procedures:	-												
Cross Checks	-												

SDG#1: No Poverty

Relevant SDG Indicator	SDG#1
Data/parameter:	Percentage of decrease of the household monthly cost to buy fuel for cooking
Unit	%
Description	Share of users that perceive a reduced charcoal consumption that result in financial savings related to ICS usage
Measured/calculated/default	Measured
Source of data	The value has been sourced from the Socio-economic survey, conducted by the PP/CME . . People are asked about amount of charcoal consumed when using the ISC compared to the baseline stoves. From the surveys conducted, 95.80% of the interviewed households stated a reduction in the fuel consumption and associated expenditures for charcoal for cooking.
Value(s) of monitored parameter	95.80% The CME has conducted Socio-economic survey/20/ in accordance with the procedure described in the registered VPA DD. End users were asked about amount of charcoal consumed when using the ISC compared to the baseline stoves.

	As per survey report/20/ submitted by PP/CME, 95.80% of the interviewed households stated a reduction in the fuel consumption and associated expenditures for charcoal for cooking
Monitoring equipment	-
Measuring/reading/recording frequency:	Annually
Calculation method (if applicable):	-
QA/QC procedures:-	-
Cross Checks	The values has been cross verified with Kitchen Performance Test(KPT)/8/.

Relevant SDG Indicator	SDG#1												
Data/parameter:	Number of staff hired to implement the project activities												
Unit	Number												
Description	The project proponent must provide the staff with the contracts, Social Security System, which includes health, pensions and labor risks.												
Measured/calculated/default	Measured												
Source of data	Contracts (Staff contract documents, social security payments, insurance payments												
Value(s) of monitored parameter	184 <table border="1"> <thead> <tr> <th>Vintage</th><th>Number of Jobs</th></tr> </thead> <tbody> <tr> <td>30/04/2020-31/12/2020</td><td>23</td></tr> <tr> <td>01/01/2021-31/12/2021</td><td>44</td></tr> <tr> <td>01/01/2022-31/12/2022</td><td>102</td></tr> <tr> <td>01/01/2023-31/03/2023</td><td>15</td></tr> <tr> <td>TOTAL</td><td>184</td></tr> </tbody> </table> Type of job created: Head office support– 23 Stove Production factory-30 Credit Assistants – 10 Sales promoters - 131 Project participants has submitted the contracts of staff/list of staff, Social Security Payments records and Insurance payment records/16/. Verification team has checked the list of staff vintage wise and confirms that total 131 staff were hired by the PP. The same is also cross checked with the insurance payment records and social security payment records/16/.	Vintage	Number of Jobs	30/04/2020-31/12/2020	23	01/01/2021-31/12/2021	44	01/01/2022-31/12/2022	102	01/01/2023-31/03/2023	15	TOTAL	184
Vintage	Number of Jobs												
30/04/2020-31/12/2020	23												
01/01/2021-31/12/2021	44												
01/01/2022-31/12/2022	102												
01/01/2023-31/03/2023	15												
TOTAL	184												
Monitoring equipment	-												
Measuring/reading/recording frequency:	Annually												
Calculation method (if applicable):	-												

QA/QC procedures:-	-
Cross Checks	

SDG #3: Good Health and Well Being

Relevant SDG Indicator	SDG #3
Data/parameter:	Percentage of users report the reduction of smoke levels in house.
Unit	%
Description	Share of users that perceive a reduced amount of smoke inside the house that result in improved living conditions and contribute to a reduction or mortality rates attributed to chronic respiratory disease and household and ambient air pollution.
Measured/calculated/default	Measured
Source of data	The value is sourced from the Socio-economic survey/20/ conducted by PP/CME. Data collected through monitoring survey. People are asked about the amount of smoke inside the house when using the ISC compared to the baseline stoves.
Value(s) of monitored parameter	93.90% The monitored valued verifies from the Socio-economic survey/20/ conducted in line with the procedure mentioned in the revised VPA-DD/6/. Users were asked about the amount of smoke inside the house when using the ISC compared to the baseline stoves.
Monitoring equipment	-
Measuring/reading/recording frequency:	
Calculation method (if applicable):	-
QA/QC procedures:	-
Cross Checks	-Reduction is smoke level has been cross verified during the on-site visit.

The verification team confirms;

- The monitoring plan implemented is in line with monitoring plan included in approved VPA-DD/6/.
- The monitoring complies with the requirement of the applied methodology.
- The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included above under each parameter and confirms to the requirement of the approved GS VPA DD/6/.
- The values included in the monitoring report and corresponding emission reduction sheets are verified, cross checked and included under each monitoring parameter, wherever appropriate
- The findings relevant to each parameter, wherever appropriate are discussed in detail in Appendix 1 of this report.

In summary, the verification team confirms that all the ex-post parameters are monitored in accordance with the approved monitoring plan and applied methodology.

Finding:

CAR 01 and CAR02 were raised and are elaborated in appendix 1 of this report.

Opinion:

The adequacy and compliance of the monitoring plan in the Monitoring report was found as per the requirements laid by the monitoring methodology and the validated PoA-DD/5/ & VPA-DD/6/. The information flow (from data generation, aggregation, to recording, calculation and reporting) is already included under respective parameter above.

The verification team has verified all the data and collected evidence as per the required monitoring frequency and found to be correct and appropriate meeting the requirements of the applied methodology and registered PoA-DD/5/.

In summary, the verification team confirms that all the ex-post parameters are monitored in accordance with the approved monitoring plan and applied methodology.

c. Implementation of sampling plan

A single sampling was undertaken by CME which is as per Standard for sampling and surveys for CDM project activities and programmes of activities version 09.0. In line with the applied guideline, CME has chosen to apply 90 per cent confidence interval and a 10 per cent margin of error which is appropriate in line with para 90 (c). An approach selected by CME for development of sampling plant was checked based on the supporting documents submitted and found appropriate which is in line as determined ex-ante by the CME.

Surveys

The surveys were undertaken between 21/02/2023 to 08/03/2023 by the CME under the supervision of the Monitoring and Certification Manager Norato Xerinda.

The field surveys were conducted randomly using the standard questionnaire. The "Random" function of MS Excel was used to generate random numbers for each stove serial number from the database. The numbers generated were then sorted from lowest to highest and the sequence of first 214 households was used to conduct the survey in the field. Select households are under "Monitoring Survey data" tab in the excel file Ex-Post ER calculations MP3. Also, CME has described the sampling method in Section D.4 of the monitoring report. VVB confirms that the size of sample and number of surveys are consistent with the monitoring plan and the Standard.

VVB Sampling

As the CME has applied VPA level sampling approach and same samples for all the monitoring parameters, hence the VVB applied the acceptance sampling in accordance with the paragraph 28-33 of the "Standard: Sampling and surveys for CDM project activities and programme of activities, version 09". The verification team carried out the random sampling from the CME's sample records and checked (using its professional judgment) the acceptability of the data for each record in the CME's sample records. The VVB has determined acceptance sample size based on the "Table 2. Sample size and acceptance number based on AQL, UQL, and producer

and consumer risks” of standard “Sampling and surveys for CDM project activities and programme of activities” version 09.0.

During the on-site visit of households (physical site visits), a random sampling approach has been used by the verification team to verify the reported values for the monitored parameters MR which are determined through sample survey by CME.

For the determination of VVB’s acceptance sample size, verification team has selected the following using its professional judgment in accordance with the para 29 (a) and 30 (a) and (b) of the Standard Sampling and surveys for CDM project activities and programmes of activities Version 09.0. Thus, in order to determine the sample size, the VVB has selected following using its own professional judgement:

1. Acceptable quality level (AQL) – 0.5%
2. Unacceptable Quality Level (UQL) – 20%
3. Producer risk -5%
4. Consumer risk -15%

Verification team has determined acceptance sample size for all the sample survey parameters in accordance with para 39, Table 2 Sample size and acceptance number based on AQL, UQL, and producer and consumer risks” of standard “Sampling and surveys for CDM project activity and programme of activities” version 09.0. From the above factors, the verification team determined the minimum sample size (n) as 09 and acceptance number (c) as 0. The sample size used to verify the reported values for the monitored parameters which are determined through sample survey by CME. The DOE interviewed the improved charcoal stove users and filled the VVB survey form to check the acceptability of the data for each record in the CME’s sample records. The actual number of sample size where the acceptance survey was done given below:

Parameters	Total Population	CME’s sample size	Sampling method used
Monitoring parameters as per section E.2 of the MR	Total households using improved stoves: 11,319	214	Acceptance Sampling based on random selection of households.

Using acceptance sampling approach, verification team checked the CME’s samples results (reported in the Monitoring forms) along with the following evidences:

1. Physical site visit/ inspection/interview
2. CME household database
3. Database of all project participating households using the various technologies as per the ER sheet
4. Thermal capacity/thermal efficiency of the stoves from stove supplier/determined from qualified laboratory.
5. Shipping details of various technologies used by project participating households

Following the requirement of the paragraph 28 of the Standard “Sampling and surveys for CDM project activities and programmes of activities” version 09.0, the acceptability of data in the random sample chosen from the CME’s sample records was determined. Based on the number

of records where there was agreement, it was determined whether the CME's sample records meet the requirements. The acceptability of the data was based on the DOE's professional judgement in line with the para 28 of the Sampling Standard.

All the data records for the 3 parameters ($N_{y,i,j}$, $u_{y,i,j}$, $n_{new,i,j}$) were in agreement with CME's sample records, and no discrepant records were found from the CME's records.

Since no discrepant records were found, therefore, the CME's set of records have been accepted based on the acceptance sampling. This is in line with the paragraph 32 of *Standard "Sampling and surveys for CDM project activities and programmes of activities" version 09.0* and found acceptable.

Finding:

CAR 01 & CAR 02 are raised and are elaborated in appendix 1 of this report.

Opinion:

- In the opinion of assessment team, the implementation and operation of the project activity is in compliance with the description in the validated PoA-DD/5/ & VPA-DD/6/.
- The actual emission reductions for the current monitoring period are 27,314 tCO₂e/2/ which are lower than the estimated ERs (71,786 tCO₂e) /2/for the comparable period.

The verification team along with physical site visit, objective evidence collection, data generation and recording analysis also considered the views obtained in these interviews while arriving at Verification Opinion.

The resulting information was organised in a digital database to derive statistical data and results as per the monitoring plan

d. Compliance with the calibration frequency requirements for measuring instruments

Not Applicable as there are no measuring instruments used during the monitoring period.

3.5 SDG Outcomes Monitoring

For Contributions to Sustainable Development

The verification team checked the sustainable development indicator parameters during the site visit interviews.

In Summary, it is Applus+ Certification's opinion that the monitoring of the project owner regarding to sustainability is in line with requirement of the GS4GG guideline.

As per the sustainability monitoring plan in the GS4GG VPA-DD/6/, verification team evaluated all sustainable development indicators as followed in the table:

Item	Baseline estimate	Project estimate	Net benefit
SDG 1 Poverty reduction: Households that observed reduction of fuel consumption and associated expenditures for Charcoal for	0%	95.80%	95.80%

cooking.			
SDG 1 Poverty reduction: Number of staff hired to implement the project activities	0	184	184
SDG 3 Good health and wellbeing: Households that observed reduced smoke inside the house	0%	93.90%	93.90%
SDG 13 GHG emission reductions	0 tCO ₂ e	27,314 tCO ₂ e	27,314 tCO ₂ e
SDG 13 Number of persons trained and capacity building for distributing and assembling clean cook stoves	0	264	264

Comparison of actual value of outcomes with estimates in approved VPA DD

Item	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period
SDG 1 Poverty reduction: Households that observed reduction of fuel consumption and associated expenditures for Charcoal for cooking.	94.3%	95.80%
SDG 1 Poverty reduction: Number of staff hired to implement the project activities	0	184
SDG 3 Good health and wellbeing: Households that observed reduced smoke inside the house	92.7%	93.90%
SDG 13 GHG emission reductions	71,786 ⁸ tCO ₂ e	27,314 tCO ₂ e
SDG 13 Number of persons trained and capacity building for distributing and assembling clean cook stoves	08	264

The adequacy and compliance of the monitoring plan in the Monitoring report was found as per the requirements laid by the approved GS4GG VPA-DD/6/. The information flow (from data generation, aggregation, to recording, calculation and reporting) is already included under

⁸ Annual Average as per the Ex-Ante spreadsheet and the Project Design Document (VPA-DD) is 24,595 tCO₂e per year (see registered VPA-DD), which is extrapolated to the duration of this reporting period to cover the entire Monitoring period. The estimated ex-ante value in current monitoring period is 71,786 tCO₂e. However, actual emission reductions is 27,314 tCO₂e which is lower than the estimated value. Years where the PDD estimated annual value was extrapolated are 2020 and 2023. Details of the extrapolation can be located in cells B10 and B13, tab "SDG summary_VPA 1" of the ER calculations spreadsheet.

respective parameter above. The verification team has verified all the data and collected evidence as per the required monitoring frequency and found to be correct and appropriate meeting the requirements of the applied methodology and registered GS VPA-DD/6/.

As a part of continuous feedback from stakeholders, the complaints and suggestions book at Sales office, Avenida Nelson Mandela, Maputo, Mozambique. People can register their comments or suggestions/questions using the book available in the field and main office of MozCarbon. Staff will process the information and take actions where needed. Further telephone numbers are stamped on receipt forms so that stove users can call project personnel.

Verification team confirmed during physical site visit that during the current monitoring period, no comments/feedbacks were received from the local stakeholders except for regular maintenance issues.

Finding:

No findings in this section.

Opinion:

In Summary, it is Applus+ Certification's opinion that the monitoring regarding to sustainability is in line with requirement of the GS4GG guideline

In Summary, it is Applus+ Certification's opinion that the monitoring of the project owner regarding to sustainability is in line with requirement of the GS4GG guideline

3.6 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the Monitoring report Version 01 & Monitoring report Version 08 and corresponding ER calculation spreadsheets and are consistent with the applied methodology AMS II.G, version 10.0 and the monitoring plan contained in the registered VPA-PD/6/. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the Monitoring Report Version 08 and corresponding ER calculation spreadsheets. The verification process for the same has been clearly described in above section of the report. See below for the detailed data:

For SDG 13:

The baseline emissions are calculated in accordance with the para 22 of applied methodology as follows:

$$ER_{y,i,j} = B_{y,savings,i,j} \times N_{y,i,j} \times \mu_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil\ fuel}$$

Where;

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

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

$NCV_{biomass}$ = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is 'air-dried')

$EF_{projected_fossilfuel}$ = Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers. Use a value of 63.7 t CO₂/TJ8

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

μ_y = Adjustment to account for any continued use of pre-project devices during the year y when applying equations 6 and 8 (fraction). Use 1.0 in other cases

$B_{y,savings,i,j}$ is estimated as follows (i.e. using the "Option 3" in the page 8 of the applied methodology):

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

$B_{y=1,new,i,j,survey}$ = Quantity of woody biomass used by project devices in tonnes per device of type i and batch j. The vintage wise emission reductions are calculated as follows:

Vintage	Emission reductions tCO ₂ e
Year 2020 (30/04/2020-31/12/2020)	8,154
Year 2021 (01/01/2021-31/12/2021)	8,665
Year 2022 (01/01/2022-31/12/2022)	8,536
Year 2023 (01/01/2023-31/03/2023)	1,959
Total	27,314

Leakage emission is calculated in accordance with the paragraph 34 of applied methodology AMS-II.G, version 10.0 which provides equation for emission reductions, without separate baseline, project or leakage emission reduction equations. As per the methodology AMS-II.G., section 5.4, paragraph 34, the leakage is accounted for by multiplying $b_{y,savings,i,j}$ by a 0.95 (net to gross adjustment factor), for which case, surveys are not required. The leakage emissions are factored in the calculation of emission reductions and can be seen in the formula on ER calculations spreadsheet tab "ER calculations_VPA1" cells AK16 to AK20.

Vintage	Leakage Emissions tCO ₂ e)
2020(30/04/2020-31/12/2020)	408
2021(01/01/2021-31/12/2021)	433
2022(01/01/2022-31/12/2022)	427
2023(01/01/2023-31/03/2023)	98
TOTAL	1,366

ER_y = 27,314 tCO₂e

Finding:

CAR 03 was raised and elaborated in appendix 1 of this report.

Opinion:

The verification team confirms that data used and calculation of emission reduction are mentioned correctly and are in line with the registered monitoring plan mentioned in the VPA-DD/6/.

Verification team confirms that:

- The complete data set for the monitoring parameters was available as mentioned in the monitoring plan in the GS4GG approved VPA-PD/10/ for the duration of 30/04/2020 to 31/03/2023 (including both the days).

- b) The cross checks were undertaken for all the parameters indicated in the respective sections and were found complying with the requirements of the monitoring plan of the approved VPA-DD (version 03)/6/;
- c) Appropriate methods and formulae for calculating baseline emission, project emissions and leakage have been followed
- d) The claimed emission reductions are free from material errors, omissions or misstatements, with a reasonable level of assurance

3.7 Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the approved VPA-DD. The same practice is followed and it is confirmed by the assessment team during the physical site visit. The data related to ER calculation as well as data monitoring, collection process etc. have been internally reviewed by the management of the Monitoring team regularly. The responsibility of each function is consistent with the monitoring plan in the registered VPA-DD.

The information flow of each parameter has been verified by the assessment team via interviewing with responsible personnel.

It's verified during the physical site visit, the monitoring procedure as well as the internal quality management and control procedures are stipulated in the VPA-PDD. The monitoring personnel have been interviewed by the assessment team and it's confirmed that the monitoring is implemented as per the procedure. Also, the training record (training register and attendance sheet) has been checked by the assessment team and it is confirmed that the monitoring personnel are sufficiently trained to perform the monitoring.

Finding:

CAR 03 was raised and elaborated in appendix 1 of this report.

Opinion:

All the data and documents, either hard copies or soft copies, will be kept for two years after the end of the last crediting period or the last issuance of GS VERs for this Project, whichever occurs later.

4. REFERENCE

No.	Author	Title	References to the document	Provider
1.	NA	Initial monitoring report	Version 1.0 dated 06/06/2023	CME
2.	NA	Final monitoring report	Version 08 dated 27/04/2024	CME
3.	NA	Ex-post Emission reduction calculations Spread Sheet	Version 1.0 dated 06/06/2023	CME
4.	NA	Ex-post Emission reduction calculations Spread Sheet	version 05 dated 27/04/2024	CME
5.	NA	PoA DD (Ref. ID 5562)	version 04 dated 04/04/2019 https://platform.sustain-cert.com/public-project/1058	GS4GG
6.	NA	VPA DD (Ref. ID 6155)	version 3.0 dated 14/04/2021 https://platform.sustain-cert.com/public-project/1178	GS4GG
7.	NA	Actual geo-coordinates measured on-site	Compass APP installed in iPhone	
8.	NA	Thermal Efficiency Test Report Stove (WBT records): (Mbaulta Poupa+) Rocketworks ChaZama Envirofit CH2200 Envirofit Econochar: Pre-project device Kitchen Performance Test(KPT)	October 2017 June 2017 September 2013 April 2015 Jan-June 2014 Dated 26/10/2017	CME
9.	NA	Manufacturer's technical specifications for improved cook stoves	-	Cookstove manufacturer
10.	NA	Training records /Attendance sheets	-	CME
11.	NA	EHS Policy	-	CME
12.	NA	GS Validation Reports for PoA and VPA 01	For PoA: https://platform.sustain-cert.com/public-project/1058 For VPA 01: https://platform.sustain-cert.com/public-project/1178	GS4GG
13.	NA	AMS II.G: Energy efficiency measures in thermal application of non-	https://cdm.unfccc.int/methologies/DB/10PELMPDW951SVSW1B2NRCQEBAX96C	UNFCCC

No.	Author	Title	References to the document	Provider
		renewable biomass, version 10.0		
14.	NA	CDM VVS version 03.0 for the project activities	https://cdm.unfccc.int/Reference/regulatory_revision_01/docs.html	UNFCCC
15.	NA	GS4GG Rules & Requirements • Programme of Activity Requirements 1.2 • Gender Equality Requirements & Guidelines, version 1.1 • Stakeholder Procedure, Requirements & Guidelines, version 1.2 • Safeguarding Principles & Requirements, version 1.2 • COVID 19 Interim Measures • Report templates	https://www.goldstandard.org/project-developers/standard-documents	GS4GG
16.	NA	Employment records/staff contract (staff hired)/Social Security Payments records/Insurance records	MP:30/04/2020-31/03/2023	CME
17.	NA	UN Sustainable development goals	https://www.un.org/sustainabledevelopment/sustainable-development-goals/	UN
18.	NA	Standard "Sampling and surveys for CDM project activities and programme of activities" version 09	https://cdm.unfccc.int/Reference/regulatory_revision_01/docs.html	UNFCCC
19.	NA	Guidelines for sampling and surveys for CDM project activities and programme of activities version 04	https://cdm.unfccc.int/Reference/regulatory_revision_01/docs.html	UNFCCC
20.	NA	Survey Report based on Sampling by PP/CME/monitoring survey forms	NA	CME
21.	NA	Monitoring procedure as per Programme management manual	NA	CME
22.	NA	Organizational structure	NA	CME
23.	NA	Baseline survey and forms	NA	CME
24.	NA	Households database for the PoA/Sales records	NA	CME
25.	NA	VVB sampling records	NA	VVB

No.	Author	Title	References to the document	Provider
26.	NA	Performance review	(MP: 01/01/2018 to 31/12/2019	GS4GG
27.	NA	fNRB of Mozambique	Dated 10/05/2023	CME
28.	NA	Declaration for no double counting	Dated;16/01/2024	CME
29.	NA	Annual Report 2020	Dated 28/12/2021	CME
30.	NA	Annual Report 2021	Dated 23/05/2022	CME
31.	NA	GS Decision on Deviation request	Dated 14/04/2024	GS

5. FINAL VERIFICATION STATEMENT

Applus+ Certification has been engaged by Mozambique Carbon Initiatives Lda. to perform the 3rd periodical verification of the "Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA 1"

The management of Mozambique Carbon Initiatives Lda. is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered VPA-DD Version 03 and the applied methodology AMS II.G, version 10.0.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and Gold Standard. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that

- the project is operated as planned and described in the approved GS4GG registered VPA-PDD version 3.0/6/;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the registered GS4GG VPA-DD, Version 3.0/6/ and the monitoring plan approved in by GS;
- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.

In our opinion, the GHG emission reductions for "Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA 1" for the monitoring period 30/04/2020 to 31/03/2023 (Both days included) as reported in Monitoring Report, prepared on the basis of the project's Monitoring Plan are fairly stated.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: 30/04/2020 to 31/03/2023 (Both days included)

Verified emissions in the above reporting period:

Leakage emissions	N/A tCO ₂ e equivalents ⁹
Project emissions	N/AtCO ₂ e equivalents
Baseline emissions	N/AtCO ₂ e equivalents
Emission reductions	27,314 ¹⁰ tCO ₂ e equivalents

⁹ As per the methodology AMS-II.G., section 5.4, paragraph 34, the leakage is accounted for by multiplying $b_{y,savings,i,j}$ by a 0.95 (net to gross adjustment factor)

The vintage wise Emission reductions are as follows:

Vintage	Emission reductions tCO ₂ e
Year 2020 (30/04/2020-31/12/2020)	8,154
Year 2021 (01/01/2021-31/12/2021)	8,665
Year 2022 (01/01/2022-31/03/2022)	8,536
Year 2023 (01/01/2023-31/03/2023)	1,959
Total	27,314

¹⁰ As per para 22 of methodology, formula directly calculates emission reductions. Project emission, leakage and baseline emissions are not calculated separately. Thus, no separate information required for baseline, project emission and leakage are considered separately.

Date: 06/05/2024

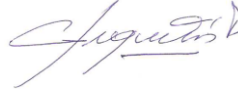
Lead Auditor: Mr. Jitendra Mohan Singh

Tech. Expert: Mr. Jitendra Mohan Singh

Tech. Reviewer: Mr. Miguel Cortes

Approver (Applus+ Certification VVB Technical Manager)

Mr. Agustín Calle de Miguel

ASSESSMENT TEAM	
Lead Auditor: Mr. Jitendra Mohan Singh	Technical Reviewer: Mr. Miguel Cortes
Signature: 	Signature: 
Approver: Mr. Agustín Calle de Miguel	
Signature: 	

Appendix 1: Corrective Action Request/Clarification Request/Forward Action

Table 1 Remaining FAR from validation and/or previous verifications

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	18/09/2023
The VVB in charge of the subsequent verification is requested to confirm the CME has implemented a mechanism in order to: - Prevent the non-identifiable nameplates of the stoves (as a picture of a stove provided has the nameplate burnt and the ID cannot be recognized properly). - Prevent ICS that can be moved beyond the PoA and/or VPA boundary because the users ceded the device to other persons by buying multiple devices or causing multiple devices can be bought by a single used (as happened in the case of Ms. Eunicia Jaime). - As a result of the sampling exercise, it is noted that approximately 30% of the users are not sure/do not know how to contact CME in case of need for replacement or other concerns. The CME needs to address this situation.			
Project Participant's response			02/10/2023
- Now the stoves have serial numbers in visible locations and easily identifiable. This was confirmed by the auditor in the field. - The PD accepts that only one stove is purchased by end users. In case someone purchases more than one stove to offer to family members or as gift, these are registered with the details of end users and not the person who purchased the stove. In the end, each user has only one stove. Also, the PDD has a provision in section E.1 where "if 2 project devices are installed per household, 0.5 times the baseline woody biomass consumption per household (Bold,HH) is used as the total annual quantity of woody biomass that would have been used in the absence of the project activity in each device (Bold,i,j)". - Additional training was performed with end users to better understand how to contact the project developer in case of any grievances or other issues related to stoves and the project. Carbon waiver (sales agreement) and leaflets distributed during sales process have contacts of project developer. These are shared for reference.			
Documentation provided as evidence by Project Participant			
- Carbon waiver forms template - Stove sales leaflet			
Auditor's assessment comment		Date:	19/10/2023
- The Serial number of stoves were punched on the stove as found during the site visit. It could be a possibility that Sr.Nos are not captured in pictured. PD has also rectified this issues to punch the details on stoves itself. Comment closed. - Through interviewed and checking of sales records/database it is confirmed that only one stoves was purchased by the end user for giving gift to another family (refer case). Moreover, this stove were not found in database used for calculation of emission reductions. Further, in accordance with the Section E.1 of the registered PDD, if 2 project devices are installed per household, 0.5 times the baseline woody biomass consumption per household (Bold,HH) is used as the total annual quantity of woody biomass that would have been used in the absence of the project activity in each device (Bold,i,j)". Thus			

acceptable to VVB.

- CME has provided additional training to end users understand how to contact the project developer in case of any grievances or other issues related to stoves and the project. The same was observed during the households' visits and training record submitted by CME. Carbon waiver (sales agreement) and leaflets distributed to each householder. It was also found the CME has deputed sales/technical persons in the project area to look after the such type of issued as found through interview with end-users.

FAR closed.

FAR from Design Change performance review

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	02
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	23/01/2023
1)2 FARs have been raised during the design change review. PD and VVB shall address the following FARs: FAR # 1: As the lifetime of the stoves also depends on the maintenance activities performed and the way the stoves have been used/handled during the monitoring periods, which is evident from the lifetime supporting documents submitted. Hence the VVB shall also check the stove condition at the time of verification to conclude whether the stoves have been working within their lifetime. FAR # 2: The updated estimated Emission Reductions based on this PRC shall be considered for the future monitoring periods/verification			
Project Participant's response			30/01/2023
FAR#1: During site visit for verification, the VVB checked the stoves in the households and were confirmed to be operational and well maintained. FAR#2: The PP has already used updated estimated emission reduction as per revised PPDD(PRC) in emission reductions calculations and comparisons of estimated Vs achieved			
Documentation provided as evidence by Project Participant			
Revised MR			
Auditor's assessment comment		Date:	03/02/2024
FAR 1: VVB has checked the selected stoves in samplings during the on-site visit and found that all stoves are operational. Further, this FAR was closed in GS Design Change Performance Review. FAR 2. Project Participant has used updated estimated Emission Reductions based on the PRC i.e. 24,595 tCO2e/year in the current monitoring period which is in line with the revised PDD (PRC). The has been used for comparing the estimated Emission Reductions Vs achieved. Moreover, this FAR was also closed in GS Deign Change performance review. Also, the same was incorporated in revised PDD (PRC) considered for this monitoring period. Change performance review. Also, the same was incorporated in revised PDD (PRC) considered for this monitoring period. Hence, these FARs are closed.			

Table 2. CL from this verification

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	18/09/2023
<i>During desk review, VVB observed that following supporting documents are not submitted:</i> 1. Trainings provided 2. Employment Records 3. Stove efficiency test report 4. Annual Report <i>PP shall clarify the same.</i>			
Project Participant's response		Date:	05/10/2023
Now the documents are submitted for review by VVB			
Documentation provided as evidence by Project Participant			
1. Training and employment records 2. Employment Records 3. Stove efficiency test report 4. Annual Report			
Auditor's assessment comment		Date:	19/10/2023
CME has submitted the following supporting evidences: 1. Trainings provided related to current monitoring period. The trainings provided are in line with monitoring plan. The same has been described in monitoring parameter section of MR and verified in VR. 2. Employment records of the current monitoring period. The same is found in line as proposed in registered PDD. The same has been described in monitoring parameter section of MR and verified in VR. VVB has also cross checked with social security number and insurance records submitted by CME. 3. CME has submitted the stove efficiency test report . The efficiency of stoves are found consistent with the information provided in MR. 4. CME has also submitted the annual report dated 01/10/2023. CL closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	02
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	18/09/2023
<i>During desk review, VVB observed that following supporting documents are not submitted:</i> 1. SDG Tool 2. Supporting of f_{NRB} 3. Declaration for no double counting for the present monitoring period 4. Stove sales agreement with end users <i>PP shall clarify the same.</i>			
Project Participant's response		Date:	05/10/2023
1. Not submitted. As per para 3.1.4 of the SDG Impact Tool manual, the use of SDG Tool			

application is optional and not mandatory for the following projects "a. design certified projects and VPAs/CPAs until the end of the ongoing Crediting Period (after which application is mandatory)". 2. Now Submitted 3. Now submitted. 4. Samples and template submitted		
Documentation provided as evidence by Project Participant		
1..... 2. FNRB Calculations GS6155 3. GS6155 Sample Carbon waivers 4. GS6155 Sample sales agreements		
Auditor's assessment comment	Date:	19/10/2023
1. VVB required SDG impact proposed during the registration of PDD to verify the archived SDGs as the proposed SDGs are not observed in registered PDD SDGs. CME shall submit the same for the current CP. Comment open 2. CME has now submitted the FNRB calculation data and found consistent with the MR. 3. Declaration for no double counting for the current monitoring period is now submitted by CME 4. CME has also submitted Stove sales agreement with end users. However, SDG impact not submitted, CL open.		
Project Participant's response	Date:	25/10/2023
1. SDG Tool not submitted. As per para 3.1.4 of the SDG Impact Tool manual, the use of SDG Tool application is optional and not mandatory for the following projects "a. design certified projects and VPAs/CPAs until the end of the ongoing Crediting Period (after which application is mandatory)". However, from the Transition process, in addition to the SDG #13 Emission Reductions, the following SDG parameters were derived and are presented in section B.5.2 of approved VPA-DD. These parameters are also updated in section E.1 of Monitoring Report. SDG#1 (No Poverty): Percentage of decrease of the household monthly cost to buy fuel for cooking. SDG#1: No Poverty (Number of staff hired to implement the project activities) SDG#3 Good health and wellbeing: Percentage of the users report the reduction of smoke levels in house. SDG #13: Number of people trained during the project implementation. The parameter of SDG#13 (Number of people trained during the project implementation) is related to the Sustainability indicator #6 (Technology transfer and technological self-reliance") in VPA-DD and was approved during transition to GS4GG. It is also related to target 13.3 "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning"		
Documentation provided as evidence by Project Participant		
Revised MR and ER sheet		
Auditor's assessment comment	Date:	03/11/2023
CME has now included the SDGs impact in revised MR and ER sheet which included the SDG impact in accordance with the revised VPA-DD. The same are checked by the VVB and found consistent with the proposed SDGs in revised VPA-DD. Thus, CAR closed.		

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	03
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.2
Description of the audit finding	Date:	18/09/2023	

<i>In Section G of MR, it is mentioned that no complaints were received, however, grievance register not submitted by PP/CME. PP shall clarify the same.</i>		
Project Participant's response	Date:	05/10/2023
Grievance Register now submitted for review by VVB		
Documentation provided as evidence by Project Participant		
GS6155 Grievance Register		
Auditor's assessment comment	Date:	19/10/2023
CME has provided the grievance mechanism in Section G of MR and also submitted the grievance register. There is no grievance registered. During, interview with end users the same was confirmed by the verification team. CL closed.		

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	04
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.4
Description of the audit finding		Date:	18/09/2023
<i>VVB has observed following inconsistencies in Section D.1 of MR:</i> <i>Ex-ante fixed parameters reported in Section D.1 are not consistent with the revised approved VPA PDD.</i> <i>Ex-ante fixed parameters "Charcoal use per standard adult/day" reported in Table (SDG 13) is not in line with the registered VPA PDD;</i> <i>The source of data and value applied is not consistent with registered VPA PDD;</i> <i>PP shall clarify the same.</i>			
Project Participant's response			05/10/2023
- Now parameters are aligned with the registered PDD. - Now correction is made to be aligned with the PDD - Source of data corrected in the Monitoring Report to be aligned with registered PDD			
Documentation provided as evidence by Project Participant			
Updated Monitoring Report			
Auditor's assessment comment		Date:	19/10/2023
CME has now corrected the ex-ante parameter in Section D.1 of MR in accordance with the revised registered VPA-DD			
CME has corrected the value of ex-ante fixed parameter "Charcoal use per standard adult/day" reported in Table (SDG 13) is in line with the registered VPA PDD;			
CME has corrected the data source and values in as per registered VPA -DD.			
CL closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	05
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.6
Description of the audit finding		Date:	19/10/2023
1. CME has not presented the data transparently under Tab "SDG Summary _VPA1". All the data has been manually fed. However, data's are obtained based on calculation. 2. In Section E.1 of MR, CME has calculated baseline emission. However, formula not found in registered PRC PDD.			
Project Participant's response		Date:	25/10/2023

1. The data is corrected to provide calculations where applicable. Is to be noted that for ex-ante emission reductions, the annual values are indicated in the PDD. CME made extrapolations for Ex-Ante ER calculations, vintages 2020 and 2023 to account for exact number of days of these vintages. Also, for achieved ERs for the monitoring period, the calculations for each vintage are presented and summarized.		
2. Emissions in the Baseline (baseline estimate) are calculated as follows: $BE_y = B_{old,HH} \times N_{HH} \times NCV_{biomass} \times f_{NRB} \times EF_{woody\ biomass}$. This approach was approved in previous Monitoring period and it assumes that emissions are derived from the amount of biomass consumed in the baseline $B_{old,HH}$. Taking into account that the formula considers 365 days, in the calculations, the actual number of days stoves were operational during the MP are factored in the calculation.		
Documentation provided as evidence by Project Participant		
Monitoring Report (updated)		
ER Calculation Spreadsheet (updated)		
Auditor's assessment comment	Date:	03/11/2023
1. CME has now included the data vintage wise in ER sheet under Tab "SDG Summary _VPA1".. CME has corrected eEx-Ante ER calculations, vintages 2020 and 2023 to account for exact number of days of these vintages. Hence OK. 2. CME has now rectified the issue in Section E.1 of revised MR. Hence OK		
CL closed.		

Table 3. CAR from this verification

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.4
Description of the audit finding		Date:	18/09/2023
VVB observed following inconsistencies in information missing under section D.1 of monitoring report: 1. Data/parameter monitored provide in Section D.2 of MR are not consistent with the revised approved VPA PDD. 2. The values of monitoring parameters "Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$)" is not summarized/indicates in MR; 3. Notation of Data parameter "Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices" is not as per registered PDD 4. The value of "Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices". However, the value is not as per registered revised approved PDD; 5. Efficiency of pre-project device is not consistent as per Registered VPA PDD; 6. As per registered PDD, f_{NRB} is monitoring parameter, however the same in not included as monitoring parameter in Section D.1 of MR. 7. The value of "Efficiency of loss factor" missing in under monitoring parameter Corrective action is sought.			
Project Participant's response		Date:	05/10/2023
1. Data parameter corrected. 2. Now the summary (total) is provided in the MR. 3. Corrected 4. As per methodology AMS-II.G version 10, the NCV for biomass is 0.0156. According to the same, if fuel used is charcoal, the value is 0.029. The value of 0.0156 is used in this Monitoring Report			

5. Corrected accordingly and made consistent across different documentation.												
6. As per the GS approved Design Change, f_{NRB} was moved to ex-ante parameter.												
Documentation provided as evidence by Project Participant												
VPA-DD ER Calculation sheet SC Design Change Review sheet												
Auditor's assessment comment	Date:	19/10/2023										
1. CME has corrected the data/parameter monitored in Section D.2 in accordance with the registered VPA DD .												
2. CME has included the data for the monitoring parameters "Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$)" in Section D,2 of MR:												
<table><tr><td>Envirofit CH2200</td><td>646</td></tr><tr><td>Envirofit Econochar</td><td>4,847</td></tr><tr><td>Mbaulta Poupa+</td><td>6,057</td></tr><tr><td>Rocketworks Chazama</td><td>1,027</td></tr><tr><td>TOTAL Stoves</td><td>12,577</td></tr></table>			Envirofit CH2200	646	Envirofit Econochar	4,847	Mbaulta Poupa+	6,057	Rocketworks Chazama	1,027	TOTAL Stoves	12,577
Envirofit CH2200	646											
Envirofit Econochar	4,847											
Mbaulta Poupa+	6,057											
Rocketworks Chazama	1,027											
TOTAL Stoves	12,577											
3. Notation of Data parameter "Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices" is now corrected in updated MR in line with registered VPA-PDD												
4. CME has corrected the value of "Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices" in line with the registered revised VPA-DD.												
5. CME has corrected the efficiency of pre-project device in line with the revised registered VPA-DD.												
6. CME has not shifted the f_{NRB} in Section D.1 as ex-ante parameter as per GS approved Design Change. Thus, acceptable to VVB. However, CME has not responded the point No 7 regarding "Efficiency of loss factor". CAR open.												
Project Participant's response	25/10/2023											
7. The <i>Efficiency loss factor</i> parameter table is included in Monitoring Report section D.2. The calculation of the factor is presented in ER spreadsheet, tab "ER Calculations VPA1" cells AV4 to AV7. This factor is applied yearly as can be seen in in columns AO to AS of the same tab and spreadsheet.												
Documentation provided as evidence by Project Participant												
ER Calculations spreadsheet Monitoring Report												
Auditor's assessment comment	Date:	03/11/2023										
The data included the data for the monitoring parameters "Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$)" in Section D,2 of MR is not correct. The value as mentioned above in table indicates total stoves distributed not operational. CAR open.												
Project Participant's response	13/11/2023											
The Monitoring Report and ER calculations sheet are updated to present the number of stoves operational during the Monitoring Period. Details can be found in section D.2 of MR and in the ER Calculations sheet, tab "ER Calculations VPA1" cells H12582 to H12586.												
Documentation provided as evidence by Project Participant												
Monitoring Report (updated) ER calculations spreadsheet (updated)												
Auditor's assessment comment	Date:	14/11/2023										

CME has now corrected the data for the monitoring parameter Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$) in Section D.2 of revised MR. The details are as follows:

Stove Model	$N_{y,i,j}$
Mbaulta	5,451
Rocketworks Chazama	9,24
Envirofit Econochar	4,362
Envirofit CH2200	5,81
TOTAL	11,319

Thus, CAR closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.4
Description of the audit finding		Date:	18/09/2023
The SDGs/Sustainability indicators are not described in accordance with the registered PDD. Data/parameters are not consistent with registered VPA PD. Further, submit the supporting of all SDGs/sustainability indicators. The data/parameter of SDGs are not in line with registered PDD. Further project participants /CME should also submit the supporting of each monitoring parameter of SDGs.			
Project Participant's response			05/10/2023
Changes were made in section E.1 of Monitoring Report to be consistent with VPA-DD. It is to be noted that the SDG Parameters were approved by GS during transition of PoA and VPA to GS4GG and in previous monitoring periods for the same project. Evidence of achievement of the SDGs are presented to auditor for verification.			
Documentation provided as evidence by Project Participant			
Transition annex Employment records Training Records			
Auditor's assessment comment		Date:	19/10/2023
CME has included the information of SDGs as per PRC VPA-PD, thus, acceptable. CAR closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Jitendra Mohan Singh	Ref. to checklist in above tables:	3.6
Description of the audit finding		Date:	18/09/2023
1. Format of dates are not correct in Monitoring survey data provided in ER sheet; 2. The Serial Nos of stoves selected for site visit found consistent at site. However, Serial no of stoves are not included in "Monitoring Survey data" tab under ER sheet. PP/CME to clarify how survey was conducted; 3. Value of leakage LEy is not indicated in Section E.3 of MR 4. Comparison of actual SDG Impacts with estimates in approved PDD are not demonstrated in ER sheet; 5. There are no consistencies in title of SDGs monitoring parameter between MR and ER			

<i>sheet.</i>		
<i>Corrective action is sought.</i>		
Project Participant's response		05/10/2023
1. Date format is now corrected for clarity and consistency. 2. Serial numbers of stoves in the Monitoring Survey are found in column AV. 3. Value of Leakage is now indicated in section E3 of the Monitoring Report. 4. Now comparisons are inserted in the ER calculation sheet, tab "SDG summary_VPA 1". It is to be noted that for the parameters "Percentage of decrease of the Household monthly cost to buy fuel" and the parameter "Percentage of the user report the Reduction of smoke levels in house" values considered are from the first monitoring period and accepted previously by GS in MP1 and MP2. 5. Corrections were made in ER sheet for consistency between this and Monitoring Report		
Documentation provided as evidence by Project Participant		
Monitoring Report		
ER Calculations sheet		
Auditor's assessment comment	Date:	19/10/2023
1. CME has corrected the Format of dates in Monitoring survey data provided in ER sheet; 2. The Serial Nos of stoves are already provided in the "Monitoring Survey data" tab under ER sheet. The cell was overlap and due to this verification was not able locate the same. Thus, comment closed. 3. CME has now included the value of leakage LEy in Section E.3 of updated MR. 4. Comparison of actual SDG Impacts with estimates in approved VPA-PD are now indicated under "SDG summary_VPA 1" in updated ER sheet. 5. CME has now rectified the issued in MR and ER sheet.		
CAR closed.		

Appendix 2: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Mr. Jitendra Mohan Singh	Mr. Jitendra Mohan Singh, has done Advanced MSc in Sustainable Energy Systems and Management from International Institute of Management, University of Flensburg, Germany and B.Tech. in Agricultural Engineering from Allahabad University, India. He has more than 22 years of working experience in different organisations like IARI, IIT Delhi, ICAR, IRADe, CAPART, SMEC and Perenia Carbon and M B Power (Madhya Pradesh) Ltd. in the area of Agriculture, Energy & Environment and Climate Change. He also worked on contract basis (ad hoc) as a RIT expert in UNFCCC from 2010 to 2013. Currently, he is associated with True Quality Certifications Private Limited and is empanelled with Applus+ Certification to carry out validation and verification related to GHG reductions projects. Jitendra holds experience as a Lead Auditor, Validator and Verifier for GHG mitigation projects and programmes of activities in Technical Area 3.1 and is qualified as per Applus+ procedures.
Ms. Karen E. Vega	Ms. Karen Vega, has a Bachelor's Degree in Environmental Sciences from the University of Barcelona, she has post-graduate studies in renewable energies, and a master's degree in finances. Karen has more than 6 years of experience in the sector of quality, environment, and climate change. Her professional career has been mainly focused, but not limited to, on the sector of validation and verification of GHG emission compensation and mitigation projects, in different countries and under universally recognized standards (CDM-UNFCCC, VS, GS). She has also worked as Sustainability and Environment consultant mainly for the metal coating sector, conducting transversal roles and opening successfully the sustainability department in the company. Currently, she works in the CDM Department of Applus + Certification, as CDM Project Manager, being especially involved in technical and management tasks in the DOE to ensure the quality of the performance of different assessments, coordinate the global team, and maintenance of the Accreditations. Karen has attended different CDM, VCS, GS4GG, GCC, ISO 9001, and ISO 14001 training processes. She has conducted consultancy services for ISO 9001 and ISO 14001 implantation in various companies, being in charge from its beginnings until final certification and certificate obtain; in the same way she has conducted Carbon Footprint Analysis and Reports. Karen is currently qualified as an auditor for ISO 9001, ISO 14001, GHG audits, and CDM renewable projects audits.

Mr. Miguel A. Cortés	Mr. Miguel Cortés holds a Bachelor's Science Degree on Civil and Environmental Engineering, being specialized on Hydric Resources. He has worked as CDM/VCS/GS and environmental consultant for different industries of multidisciplinary sectors world widely. Mr. Miguel Cortés counts with several years of GHG assessment experience, working and being qualified as Lead Auditor and Technical Reviewer for different DOEs world widely, as well as has been part of Gold Standard expert's committees and has been approved as a member of the UNFCCC RIT in 2019. Furthermore, he has performed his professional GHG assessment portfolio career worldwide and focusing in Latin America, developing assessments for projects in Argentina, Mexico, Panama, Colombia and Chile, among others.
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