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GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG)
REPORT
-
VERIFICATION

Project Title:	*GS10884 - KOKO Kenya - Ethanol Cookstoves Program - CPA-0002*
Monitoring Period:	*01/04/2022 to 31/08/2022*
GS project ID:	*11440*
Internal ID:	*BELL_GS_PoA_VER_17822*
Customer:	*KOKO Networks Limited*
Date:	*14/09/2023*
Revision:	*03*

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SUMMARY			
Reference No.	**Date** *(first version)*	**Version No.**	**Date** *(last version)*
BELL_GS_PoA_VER_17822	01/04/2023	04	*14/09/2023*
GS4GG Verification			
GS4GG Certified Product *(sought)*:	GHG Emission Reductions		
GS4GG SDG Impact Statement *(sought)*:	Not applicable		
General Information			
Client	KOKO Networks Limited		
Project Title	GS10884 - KOKO Kenya - Ethanol Cookstoves Program - CPA-0002		
Project Participants	KOKO Networks Limited		
Project Location	Republic of Kenya		
Contact Person	Mr.Greg Murray		
Monitoring Period:	01/04/2022 to 31/08/2022 (both days included)		
GS4GG Version: 1.2 GS4GG Activity Requirements: PROGRAMME OF ACTIVITY REQUIREMENTS v1.2 Community Services Activity, Version 1.2 Applied Methodology Version: AMS I.E V 09 "Switch from non-renewable biomass for thermal applications by the user" Current Methodology Version: AMS I.E V 09 "Switch from non-renewable biomass for thermal applications by the user"		GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 1 Technical Area: 1.1	
Published Monitoring Report Version: 01 Date: 05/09/2022		Final Monitoring Report Version: 4.0 Date: 10/09/2023	
Certified Project Design Document Version: 05 Date: 31/08/2022			
Estimated Annual Emission Reductions: 1,081,893 tons-CO2/year			
Selected Sustainable Development Goals (SDGs): SDG 3; SDG 5 SDG 7; SDG 13			
Verification Summary			

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by KOKO Networks Limited, has performed the independent verification of the emission reductions for the GS VPA 11440 "GS10884 - KOKO Kenya - Ethanol Cookstoves Program - CPA-0002" (GS ID-11440) in "Kenya" applying the methodology AMS I.E, Version 09. The management of KOKO Networks Limited is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and a site visit (virtual) have been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following has been reviewed:

(a) The registered GS PoA-DD and GS VPA-DD, including the monitoring plan and the corresponding validation report.
(b) Monitoring report(s);
(c) The applied monitoring methodology.

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(d) Relevant decisions, clarifications, and guidance from the CMP and the CDM Executive Board.

(e) GS4GG version 1.2 requirements.

(f) All information and references relevant to the project activity's resulting in emission reductions.

(g) Evidence for CSR activities carried as stated in SD monitoring plan.

(h) Training Records of Project staff

(i) HR employment records of the Project staff on site

This VPA involves promotion and dissemination of bioethanol based clean cookstoves to households in Kenya, where the improved cookstove distributed will consume cleaner renewable fuel- ethanol. Ethanol based stove enables the end uses to switch from a non-renewable biomass(charcoal/wood) to a renewable fuel (Ethanol). The registered VPA will help in reducing the use of wood fuel and charcoal, thus curbing the problems caused by its production (cutting down of trees causing deforestation) and consumption (as a cooking fuel which generates smoke and soot). Thus, the PoA will reduce a significant amount of emissions that would have been generated in the baseline scenario to the VPA implementation, where the non-renewable biomass would have been used as a fuel.

The CME of the VPA is KOKO Networks Limited, which will be the sole beneficiary of carbon credits from this VPA.

Applus+ Certification confirm that the project is implemented in accordance with the approved transition annex and VPA-DD. The monitoring plan complies with the applied methodology AMS I.E Version 09 and the GS4GG Version 1.2, the 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 1,039,762 tCO_2e emission reductions during period 01/04/2022 – 31/08/2022.

ASSESSMENT TEAM		
Team Members	**Type of Resource**[1]	**Organization** *(for OEs)*
Lead Auditor: Vivek Kumar Ahirwar	☐IR ☒EI ☐OE	-
Technical Expert: Vivek Kumar Ahirwar	☐IR ☒EI ☐OE	-
Technical Reviewer: Simon Shen	☐IR ☒EI ☐OE	-

[1] IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

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ABBREVIATIONS	
ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology Small Scale
Applus+ LGAI / Applus+	LGAI Technological Center, S.A. (Applus+ Certification)
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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Appendix 2: Calibration details of monitoring meters.

Appendix 3: Audit Team CVs.

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1. INTRODUCTION

1.1 Objective

This verification is an independent and objective review for the GS4GG requirement, of the emission reductions achieved by the VPA "GS10884 - KOKO Kenya - Ethanol Cookstoves Program - CPA-0002" (GS ID-11440), for the period 01/04/2022 to 31/08/2022.

The verification report addresses the implementation and operation of the GS VPA and tests the data and assertions set out in the monitoring report based on the following:

(i) The registered GS PoA-DD and/or VPA-DD

(ii) The approved methodology mention in the VPA-DD

(iii) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords

(iv) The latest GS4GG guidelines version 1.2

(v) CDM Validation and Verification Standard (VVS)

(vi) CDM Project Standard (PS) and Project Cycle Procedure (PCP)

(vii) Relevant decisions, guidance, and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity's reported emission reductions

The verification has considered both quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC, as appropriate to the PA. The verification is not meant to provide any consulting or recommendations to the CME/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

1.2 Scope

The verification scope encompasses an independent and objective review for the Gold Standard for the Global Goals (GS4GG) version 1.2 requirements of the emission reductions achieved for the project activity.

The verification is based on the submitted monitoring report, the validated and registered PDD and Passport as well as its validation report, the applied monitoring methodology, relevant decisions, clarifications, and guidance from the CMP and the EB, The GS4GG Version 1.2 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, The Gold Standard for the Global Goals version 1.2 and related rules and guidance.

Based on the requirements in the VVS version for PAs version 03.0 as well as the GS4GG version 1.2, 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 process involved following.

- Contract with KOKO Networks Limited for the scope of verification.
- Submission of monitoring report and supporting documents
- Desk review
- Virtual site inspection
- Issuance of verification findings
- Reporting, calculation checks, QA/QC and resolution of findings
- Issuance of draft verification report
- Independent technical review of the project documentation
- Issuance of the final verification report

1.3 Description of the project activity

<table>
<tr><td>Voluntary Project activity:</td><td>GS10884 - KOKO Kenya - Ethanol Cookstoves Program - CPA-0002</td></tr>
<tr><td>Gold Standard registration number:</td><td>11440</td></tr>
<tr><td>Project Participants:</td><td>KOKO Networks Limited</td></tr>
<tr><td>Location of the project:</td><td>Country: Republic of Kenya
Region: Nairobi, Mombasa, Kisumu & Nakuru
<table><tr><td>Southern-most point of Kenya</td><td>4°38'47.4"S
39°12'31.6"E</td></tr><tr><td>Western-most point of Kenya</td><td>0°06'58.9"N
33°57'35.3"E</td></tr><tr><td>Eastern-most point of Kenya</td><td>3°55'51.6"N
41°51'59.9"E</td></tr><tr><td>Northern-most point of Kenya</td><td>4°28'42.5"N
35°52'31.8"E</td></tr></table></td></tr>
<tr><td>Date of GS registration:</td><td>25/08/2022</td></tr>
<tr><td>Starting date of the crediting period:</td><td>28/08/2020</td></tr>
</table>

KOKO Networks Limited has implemented the programme of activities which reduces GHG emissions by distributing KOKO Cooker Kit (or Bio ethanol stove) which consists of a two-burner

bioethanol stove and a durable 'smart' canister equipped with an NFC chip that enables tracking of users location. The dissemination of ethanol cookstove enables affordable and reliable access to bioethanol clean cooking fuel. KOKO Networks Limited launched network of cloud connected "KOKO points" which are fuel ATMs to lower distribution costs. The KOKO points enable customers to use their smart canisters to refill with convenience at local corner shops. Customers can buy their KOKO Cookers by completing one-time registration process and ordering it on the KOKO point tablet screen, via the "myKOKO" mobile app /29/. KOKO's smart distribution platform allows purchase of bio-ethanol fuel through a digital billing system in bundles to low-income consumers who buy fuel in small units.

Pine Tree Carbon LLC has fully financed the project cost related to subsidy provided to customers for all KOKO Cooker kits distributed to the households. The same was verified based on the ERPA (Emission Reduction Purchase Agreement) between KOKO Networks Limited and Pine Tree Carbon LLC.

Double counting of carbon credits:

a) The project activity is not registered under any other emissions trading program or any other mechanism that includes GHG allowance trading.

b) The VPA is also registered under CDM PoA (UN-10476) and GHG credits issued under CDM till 31/12/2020. Credits for previous monitoring period (Performance Review 1) from 01/01/2021 to 31/03/2022 are already issued under GS. The current monitoring period (Performance Review 2) is considered from 01/04/2022 to 31/08/2022 which confirms the continuity of the monitoring cycle.

The assessment team can confirm that there is no double counting of credits is anticipated in the current monitoring period.

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 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

• 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 a virtual 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) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Vivek Kumar Ahirwar	LA/TE	Yes(1)	Yes (1.1)	NA	NA
Simon Shen	TR	Yes(1)	Yes (1.1)	NA	NA

The complete list of CVs is included as Appendix 3 of this report.

2.2 Document review

The Gold Standard Monitoring Report version 1.0 /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;

- check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD and Passport; 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 was paid;

-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.

A complete list of documents reviewed is available in section 4 of this report.

2.3 On site assessment and follow up interviews

On-site inspection and interviews: 13/09/2022 to 15/09/2022				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	An assessment of the implementation and operation of the registered project activity as per the registered PoA-DD, VPA-DDs.	Nairobi and Mombasa province in Kenya	13/09/2022 to 15/09/2022	Vivek Kumar Ahirwar
2.	Assessment of data management system, QA/QC procedures. Comparison of end-user data/Warranty cards information in the database (dates, serial numbers, names, locations etc.) A review of information flows for generating, aggregating and reporting the monitoring parameters	Nairobi and Mombasa province in Kenya	13/09/2022 to 15/09/2022	Vivek Kumar Ahirwar
3.	Interviews with relevant personnel to determine whether the operational and	Nairobi and Mombasa	13/09/2022 to 15/09/2022	Vivek Kumar Ahirwar

	data collection procedures are implemented in accordance with the monitoring plan in the VPA-DD	province in Kenya		
4.	A cross check between information provided in the monitoring report and data from other sources such as inventories, purchase records or similar data sources	Nairobi and Mombasa province in Kenya	13/09/2022 to 15/09/2022	Vivek Kumar Ahirwar
5.	A review of calculations and assumptions made in determining the GHG data and emission reductions	Nairobi and Mombasa province in Kenya	13/09/2022 to 15/09/2022	Vivek Kumar Ahirwar
6.	An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters	Nairobi and Mombasa province in Kenya	13/09/2022 to 15/09/2022	Vivek Kumar Ahirwar

Interviews with project participants and HHs:

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Mahawar	Abhishek	Senior Project Manager, KOKO Networks Limited	13/09/2022	PoA/VPA implementation and its development, monitoring report, ER Calculations, Generation of sales database, Data entry, reporting, QA/QC	Vivek Kumar Ahirwar
2	Koigi	Nancy	Head - Market Research, KOKO	13/09/2022	Monitoring, Survey design, QA/QC procedures,	Vivek Kumar Ahirwar

			Networks Limited		analysis of survey results	
3	Ouma	John	Associate – Market Research, KOKO Networks Limited	13/09/2022	Survey Planning, Survey Implementation	Vivek Kumar Ahirwar
4	Caroline	Marindi	KOKO User (HH, Stove serial number - 200488011)	14/09/2022	DOE survey	Vivek Kumar Ahirwar
5	Judith	Nyaenya	KOKO User (HH, Stove serial number - 202448274)	14/09/2022	DOE survey	Vivek Kumar Ahirwar
6	Lilian	Akinyi	KOKO User (HH, Stove serial number - 200626941)	14/09/2022	DOE survey	Vivek Kumar Ahirwar
7	Damaris	Waco mwangi	KOKO User (HH, Stove serial number - 200632496)	14/09/2022	DOE survey	Vivek Kumar Ahirwar
8	George	Musoka	KOKO User (HH, Stove serial number - 203822297)	14/09/2022	DOE survey	Vivek Kumar Ahirwar
9	Mary	Wangechi Mwaura	KOKO User (HH, Stove serial number –	15/09/2022	DOE survey	Vivek Kumar Ahirwar

			200076827)			
10	Mercy	Muthoni	KOKO User (HH, Stove serial number – 202884746)	15/09/2022	DOE survey	Vivek Kumar Ahirwar
11	Grace	Wanjiru	KOKO User (HH, Stove serial number – 202297369)	14/09/2022	DOE survey	Vivek Kumar Ahirwar
12	Jackline	Akoth	KOKO User (HH, Stove serial number – 204167787)	14/09/2022	DOE survey	Vivek Kumar Ahirwar
13	Emily	Ouma	KOKO User (HH, Stove serial number – 200894927)	15/09/2022	DOE survey	Vivek Kumar Ahirwar
14	Margaret	Njoki	KOKO User (HH, Stove serial number - 202143944)	15/09/2022	DOE survey	Vivek Kumar Ahirwar
15	Opati	-	KOKO User (HH, Stove serial number - 204074172	15/09/2022	DOE survey	Vivek Kumar Ahirwar

16	Simon	Mbuthia	KOKO User (HH, Stove serial number - 203862039	15/09/2022	DOE survey	Vivek Kumar Ahirwar
17	Ngila	-	KOKO User (HH, Stove serial number - 204421155	15/09/2022	DOE survey	Vivek Kumar Ahirwar
18	Tole	Harun	KOKO User (HH, Stove serial number - 203321237	15/09/2022	DOE survey	Vivek Kumar Ahirwar
19	Kisilu	-	KOKO User (HH, Stove serial number - 202520285	15/09/2022	DOE survey	Vivek Kumar Ahirwar
20	Peter	-	KOKO User (HH, Stove serial number - 203836190	15/09/2022	DOE survey	Vivek Kumar Ahirwar
21	OSCAR		KOKO User (HH, Stove serial number - 203298137	15/09/2022	DOE survey	Vivek Kumar Ahirwar
22	Mugambi	-	KOKO User (HH, Stove serial number - 203346736	15/09/2022	DOE survey	Vivek Kumar Ahirwar

23	Serah	-	KOKO User (HH, Stove serial number - 203772737	15/09/2022	DOE survey	Vivek Kumar Ahirwar
24	Sophie	-	KOKO User (HH, Stove serial number - 203385328	15/09/2022	DOE survey	Vivek Kumar Ahirwar
25	Juma	-	KOKO User (HH, Stove serial number - 203774641	15/09/2022	DOE survey	Vivek Kumar Ahirwar

The households were asked the following questions.

- Usage and functionality of KOKO cooker
- Whether any other type of stove is installed and if yes, its hours of operation
- Physical condition of stove or if any changes were made by the households after its installation that could affect the stove efficiency and maintenance is done as and when required.
- Hours of usage
- Do the users aware of grievance mechanism
- Users were also asked about how the family has benefitted from the installation of KOKO cooker, for example: reduction in smoke or indoor air pollution, efficient cooking, reduction in time spent for collection of firewood and the quantity of the firewood collected.

In general, the KOKO cookers were operational, and the user's informed cooking was much easier and cleaner by improvising the indoor air quality and has also helped in saving the time of the end-user by improvising the efficiency of the cookstoves. This project device has improved the working conditions of the women in the kitchen.

In short, positive feedback was received from the end-users regarding the KOKO cookers during the on-site visit conducted by the auditor.

2.4 Quality of evidence

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR. The source of the evidence will be discussed in section 4 of this report. 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:

a) 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;

b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;

c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

d) 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 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.

All CARs, CRs and FARs for this verification period are included in Appendix 1 of the verification report.

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 must be finally approved either by the VVB's Technical Manager or the Deputy. In case one of these two persons is part of the assessment team, the 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

Areas of verification findings	No. of CR	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	-	-
Compliance of the project implementation with the registered PDD	-	-	-
Post-registration changes	-	-	-

Compliance of the SDG monitoring plan with the monitoring methodology including applicable tool and standardized baseline	-	-	-
Compliance of monitoring activities with the registered monitoring plan	-	CAR#1	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	-	CAR#2, CAR#3, CAR#4	-
Others (Editorial error)	CR #01 (inconsistency)	-	-
Total	01	04	-

3.1 FARs from Validation / Previous Verification

There are no FARs were raised during last verification.

3.2 Project Implementation in accordance with the registered Project Design Document

Means of verification	The registered GS PoA-DD/05/ & VPA-DD/07/ was reviewed to identify the key design features, eligibility requirements and monitoring requirements for the VPA operations. The verification team carried out checks during the on-site visit to assess the compliance of the VPA operations with the PoA design, physical features, and monitoring provisions. The assessment team has off-site interview, photographic evidence and third-party survey report, the audit team confirms the project implementation and operation complies with the registered PoA-DD /02/. The following features of the implemented VPA were compared with the registered PoA-DD: (i) Implemented technology (ii) VPA eligibility conditions (iii) Emission reduction calculation method (iv) Implemented monitoring plan (including SDG parameters) (v) Implementation of grievance mechanism The implemented VPA, covered under this verification, consisted of KOKO Cookers and KOKOpoints (fuel ATMs) in accordance with the registered PoA-DD. The specification of KOKO cookers and related infrastructure was checked from the specification sheets and the actual units were compared against the same from the user invoices and company records. There was no departure of the technology observed from the specifications mentioned in the GS PoA-DD. The VPA implementation complied with all eligibility conditions as provisioned in the PoA-DD. The formulae, fixed parameters and the monitoring parameters and emission reduction calculation methods applied in the monitoring report were found to be complying with the PoA-DD.

The PoA Involves distribution of modern cookstoves (KOKO cookers) and promote its use for cooking purposes in households in Kenya. The VPA, covered under this verification, was implemented in Nairobi, Mombasa, Kisumu and Nakuru province in Kenya. The summary of total cookstoves distributed under the VPA till the end of monitoring period (31st August 2022) is provided below:

VPAs	Technology	Households	SMEs (Kibandas)
VPA-0002	KOKO Cooker	537,163	0

The VPA is a retroactive project originally registered with the CDM program under micro-scale CDM units. The VPA operations were found to be consisting of only CDM micro-units and hence exempted from micro/small scale threshold limits /18/. Hence, VPA-02 is not limited by the aggregate threshold requirements for micro/small scale projects and may continue to include additional units under CDM guidelines. For registration under CDM transition scheme of Gold Standard, the VPA sought deviation for exemption from aggregate scale threshold defined under from the GHG Product Standard which was duly approved by Gold Standard on 27th April 2022 (Ref: Deviation DEV_247).
As per the requirements of the DEV 247, VVB confirms the following:

- VVB has checked from the GS impact registry that both the VPAs – GS10885 & GS11440 do not appear in the CORSIA eligible list of projects. VVB also checked the Voluntary Registry Offset Database published by Berkeley Public Policy /55/ and confirmed that the credits issued to GS11440 are not eligible under CORSIA.
- VVB also confirms that CME has not proposed any new VPA.

Based on the above assessment, VVB confirms that the VPAs GS10885 and GS11440 are neither registered as CORSIA-eligible projects nor have claimed CORSIA-eligible VERs.

The total of 1,099 KOKOpoints were installed and were found operational by the end of the monitoring period as checked from the KOKO shop database/30/.
During the current monitoring period no changes have been observed which may impact the additionality, scale and/or applicability of baseline and monitoring methodology AMS-I. E version 9.
The operational status of all KOKO Cookers, impact on identified SDGs from 01/04/2022 to 31/08/2022 has been taken into consideration.
The annual monitoring survey was conducted by the CME during April and May month of the year 2022. The proposal for the monitoring survey was approved by the Management on 24th March 2022 which was checked from the internal email communication. The updating of database for each quarter takes 15-20 days which was confirmed by the VVB during site visit. The sampling was conducted on 4th May 2022 which was confirmed from the internal email communication. The sampling frame was considered the complete cooker Db till 31st March 2022. The sampling frame (cooker database) and the shortlisted sample records were submitted to the VVB which were duly verified and found consistent with the survey data. The total cookers (including both household & non-household cookers) in the sampling frame were 406,346 and household -only cookers were 400,039.

Sampling approach:

CME's Sampling Approach:

The monitoring of the PoA for verification includes parameters which require data related to operations of the cookstoves. Since it is not feasible to monitor all the cookstoves, the sampling-based approach is adopted by the CME. For sampling, CME has followed the CDM guidelines for Sampling and surveys for CDM project activities and Programmes of activities version 4.0 which is in line to the revised accepted PoA DD. The confidence precision level applied by CME for the sampling is 95/10, which is appropriate as per the requirement of cross-VPA sampling. The CME applied simple random sampling approach across VPAs for different monitoring parameters. As the population is relatively homogeneous (same stove type, population, and cooking habits) with respect to the object of the sampling effort, simple random sampling method was found appropriate for the survey. The CME demonstrated to the satisfaction of the verification team that the survey conducted was free of any bias, calculation errors or any misinterpretation/misrepresentation of recorded data.

Verification Sampling Approach:
To meet the requirements of Standard for Sampling and surveys for CDM project activities and Programmes of activities version 09.0, the verification team applied acceptance sampling in the verification (in accordance with para 28). The verification team selected random samples of CME's sampled records, checked the acceptability (or otherwise) of the data for each such record with CME's sample records, and then based on the number of records where there is an agreement, determined if the CME's sample records meet the requirements.
The verification team has thus determined the sample size for acceptance sampling by evaluating the following, using guidance in the Standard 'Sampling and surveys for CDM project activities and programme of activities':

- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that can be considered acceptable. This is referred to as the AQL (Acceptable Quality Level): 1% was considered in this verification.
- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that would be considered unacceptable. This is the UQL (Unacceptable Quality Level): 20% was considered in this verification.
- The producer risk: 5% was considered.
- The consumer risk: 10% was considered.

Considering the above input values, a sample size of 18 was required as per Table (Sample size and acceptance number based on AQL, UQL, and producer and consumer risks) in the referred Standard.
Accordingly, the acceptance numberI) thus determined for the sample size is 0.

	<table><tr><td>AQL</td><td>AQL:1%</td></tr><tr><td>UQL</td><td>UQL:20%</td></tr><tr><td>Producer risk</td><td>5%</td></tr><tr><td>Consumer risk</td><td>10%</td></tr><tr><td>Sample size</td><td>18</td></tr><tr><td>Acceptance NumI (c)</td><td>01</td></tr></table> The VVB has picked 22 samples from the household user category for verification sampling. The samples to be surveyed by the verification team were randomly selected from the list of monitored samples using the random sample generator on Microsoft excel. The sampling method used is in line with Standard: Sampling and surveys for CDM project activities and programme of activities, ver. 09.0 and Guideline: Sampling and surveys for CDM project activities and programme of activities, ver. 4.0. The results of the CME sampling and verification sampling are discussed in the section 3.5 of this report.
Findings	No finding was raised.
Conclusion	Applus+Certification is of the opinion that the project implementation and operation complies with the project design document.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

Means of verification	Based on this review it was found that the monitoring plan contained in the registered VPA-DD/07/ includes all the required parameters to be monitored in the context of the VPA design and description and allows proper determination of emission reductions in accordance with VPA-DD/2/ and applied methodology AMS-I.E version 09/19/ .
Findings	No issues identified in section hence finding was not raised.
Conclusion	All monitoring parameters, monitoring procedures follow the methodology requirements and registered monitoring plan.

3.4 Completeness of Monitoring

Data and parameters fixed ex ante or at renewal of crediting period:

Relevant SDG Indicator 13: Take urgent action to combat climate change and its impacts

Relevant SDG Indicator	Parameter	Value in VPA-DD	Assessment
13.1.1	$f_{NRB,}$	0.9268	The value is sourced from the registered VPA-DD which in turn estimates the parameter using CDM Tool 30 and national level forestry data /49/. The same has been fixed ex-ante based on the calculations as indicated in the VpA-DD/ERs sheet, which is found correct by the assessment team.

13.1.1	$NCV_{biomass}$ (TJ/Tonne)	0.0156 for wood and 0.0295 for charcoal	These values sourced from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2 /33/.
13.1.1	$EF_{projected}$ (tCO_2e/TJ)	63.7	The value is sourced from the equation 1 of applied methodology/19/.
13.1.1	L_{AFy}, (Fraction),	0.95	Default value has been applied as per the methodology /19/.
13.1.1	$BC_{BL,PP,y}$ (tonnes/person/year)	1.71	The value is calculated and found consistent with the registered VPA-DD.
13.1.1	$N_{p,HH}$(Number)	4.0	The parameter has been determined in line with the registered VPA DD, where in turn, it is sourced from official "eport "Kenya Integrated Household Budget Survey 2015/16" /53/.
13.1.1	$EF_{bioethanol\_production}$,	8.73g CO2/Litre	The parameter has been determined in line with the registered CDM VPA DD.
13.1.1	η_{Eth}, %	60	The value of this parameter sourced from the manufacturer's specifications and found with the registered PoA DD/5/
13.1.1	$EF_{EF,j,y}$, tCO_2/MWh	1.3	The parameter has been found consistent with the registered PoA-DD and VPA-DD/7/.
13.1.1	TDL, %	20	The parameter has been found consistent with the registered PoA-DD and VPA-DD/7/.
13.1.1	$\eta_{old,i}$, %	20%	The parameter has been found consistent with the registered PoA-DD and VPA-DD/7/.
13.1.1	**$EF_{CO2,f,}$** (**g**CO2/t km)	245 for light vehicles and 145 for heavy vehicles	The parameter has been found consistent with the registered PoA-DD and VPA-DD/7/.

3.5 SDG Outcomes Monitoring

Parameter 1: Date of commissioning of project Ievice i, (Date) -Actual date of commissioning of the project device

Relevant SDG Indicator 13.2: Amount of GHGs emissions avoided or sequestered

Means of verification	**Criteria/Requirements**	**Assessment**

	Measuring /Reading /Recording frequency	Fixed and recorded at the time of commissioning/ distribution
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the VPA-DD/07/ and applied methodology/19/.
	Monitoring equipment	NA
	Calibration frequency /interval:	NA
	How were the values in the monitoring report verified?	The value of the parameter is April 2022 to August 2022 was checked from the sales database.
	If applicable, has the reported data been cross-checked with other available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC procedure is NA
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	No findings were raised	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/07/ (as per measurement methods and procedures to be applied) and applied methodology/06/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/07/.	

Parameter 2: Number of project devices If type i and age a that are operating in year y , N_{HH}

Relevant SDG Indicator 13.2: Amount of GHGs emissions avoided or sequestered

Means of verification	**Criteria/Requirements**	**Assessment**
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the registered VPA-DD/07/ and applied methodology/19/.
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The total number of systems reported in the monitoring report is 537,163 (after excluding non-household cookers). It was confirmed by

		the VVB that the stove-years was calculated based on household-only cookers and does not account stove-years of non-household cookers. PP keeps records of sale of each system on its online portal as checked during the current audit through the review of online systems. Each device has unique ID, which is listed in the database, has been claimed for VERs. The entries in database were checked to confirm the total number of project devices presented in the MR. Also, the assessment team interviewed 22 samples to confirm that the details of the end-users in the database/24/ are correct.
	If applicable, has the reported data been cross-checked with other available data?	Yes. The sampled entries (22) were checked with the installation invoices /28/and delivery notes/29/ and the details were found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, QA/QC procedures were found to be appropriate and reliable.
Findings	NA	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/07/ (as per measurement methods and procedures to be applied) and applied methodology/19/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/07/.	

Parameter 3: Number of KOKOpoints operating during year y

Relevant SDG Indicator 13.2: Amount of GHGs emissions avoided or sequestered

Means of verification	**Criteria/Requirements**	**Assessment**
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the registered VPA-DD/07/ and applied methodology/19/.
	Monitoring equipment	NA
	How were the values in the monitoring report verified?	The total number of KOKO points are checked through the database of installed KOKOpoints under operations.

	If applicable, has the reported data been cross-checked with other available data?	All KOKOpoints are connected to internet and operational status is verified online.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, QA/QC procedures were found to be appropriate and reliable.
Findings	NA	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/07/ (as per measurement methods and procedures to be applied) and applied methodology/19/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/07/.	

Parameter 4: Net calorific value of the fuel type "i" used in project scenario including non-renewable woody biomass, charcoal or renewable bio-ethanol, $NCV_{i,biomass}$

Relevant SDG Indicator 13.2: Amount of GHGs emissions avoided or sequestered

Means of verification

Criteria/Requirements	**Assessment**
Measuring /Reading /Recording frequency	Annually
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the registered VPA-DD/07/ and applied methodology/19/.
Monitoring equipment	Bomb Calorimeter
Calibration frequency /interval:	NA
How were the values in the monitoring report verified?	Default value was applied in-line with the applied methodology/19/,sourced from IPCC Guidelines for National Greenhouse Gas Inventories 2006/33/.

NCV	Fuel	Default Value(TJ/Tonne)
$NCV_{Wood,Biomass}$	Wood Fuel	0.0156
$NCV_{Charcoal,Biomass}$	Charcoal	0.0295

The NCV of bioethanol was verified from the lab testing report provided by University of Nairobi /31/. The verified value is 0.0254 TJ/ton.

	If applicable, has the reported data been cross-checked with other available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC procedure is NA as default value in-line to the applied methodology has been used.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	No findings were raised	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/07/ (as per measurement methods and procedures to be applied) and applied methodology/19/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/07/.	

Parameter 5: Quantity of electricity consumed by the project electricity consumption source j in year y (MWh), $EC_{PJ,j,y}$

Relevant SDG Indicator 13.2: Amount of GHGs emissions avoided or sequestered

Means of verification		
	Criteria/Requirements	**Assessment**
	Measuring /Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the registered VPA-DD/07/ and applied methodology/19/.
	Monitoring equipment	Energy meters
	Calibration frequency /interval:	NA
	How were the values in the monitoring report verified?	Value applied is 96.22 MWh.The values are verified from the ER sheet/04/. A conservative value is considered that is based on rated capacity and full Operational hours during the monitoring period.
	If applicable, has the reported data been cross-checked with other available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA

	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	No finding was raised	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/07/ (as per measurement methods and procedures to be applied) and applied methodology/19/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/07/.	

Parameter 6: Return trip distance between the origin and destination of freight transportation activity f in monitoring period m

Relevant SDG Indicator 13.2: Amount of GHGs emissions avoided or sequestered

Means of verification	**Criteria/Requirements**	
	Measuring /Reading /Recording frequency	This parameter is monitored continuously.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the registered VPA-DD/07/ and applied methodology/19/.
	How were the values in the monitoring report verified?	The assessmnet team has checked the trip records submitted by project participants.The total trip distance for the current monitoring period is verfied as 418,123.12 Kms.
	If applicable, has the reported data been cross-checked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The vehicle operator monitors and maintains the up-to-date records of the trip, necessary QA/QC processes in place.
Findings	No findings	
Conclusion	The parameter has been monitored appropriately, in accordance with the sustainability monitoring plan (as per measurement methods and procedures to be applied). The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Parameter 7: Total mass of freight transported in freight transportation activity f in monitoring period m (Tons), $FR_{f,m}$

Relevant SDG Indicator 13.2: Amount of GHGs emissions avoided or sequestered

<table>
<tr><td>Means of verification</td><td>
<table>
<tr><td>Criteria/Requirements</td><td></td></tr>
<tr><td>Measuring /Reading /Recording frequency</td><td>This parameter is monitored continuously.</td></tr>
<tr><td>Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)</td><td>Yes, the measuring and reporting frequency are in line with the registered VPA-DD/07/ and applied methodology/19/.</td></tr>
<tr><td>How were the values in the monitoring report verified?</td><td>The assessmnet team has checked the trip records submitted by project participants.

The CME maintains the records of bioethanol supplied to the KOKOpoints during each trip of the Microtanker electronically.

The total mass of freight transported for the current monitoring period is verfied as 29,546.17 tons /04/.</td></tr>
<tr><td>If applicable, has the reported data been cross-checked with other available data?</td><td>Not applicable</td></tr>
<tr><td>Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?</td><td>The vehicle operator monitors and maintains the up-to-date records of the type of vehicle and its total capacity in terms of volume, necessary QA/QC processes in place.</td></tr>
</table>
</td></tr>
<tr><td>Findings</td><td>No findings</td></tr>
<tr><td>Conclusion</td><td>The parameter has been monitored appropriately, in accordance with the sustainability monitoring plan (as per measurement methods and procedures to be applied). The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.</td></tr>
</table>

Implementation of sampling plan:

The verification team checked whether the PP applied a sampling approach to determine the monitored values appropriately in line with POA-DD and VPA-DD.
Further it has been checked whether the PP correctly applied the implemented sampling plan including

i. Description of the implemented sampling design
ii. Collected data
iii. Analysis of collected data
iv. Demonstration on whether the required confidence/precision has been met.

CME Monitoring Survey:
CME has followed the CDM guidelines for Sampling and surveys for CDM project activities and programmes of activities version 4.0/21/ for carrying out the monitoring survey. The confidence precision level applied by CME for the sampling is 95/10, which is appropriate as per the requirement of cross-VPA sampling. The CME applied simple random sampling approach across VPAs for different monitoring parameters. Since the ER calculation methods are different for households and SME users, separate simple random Sampling was applied for each of the

category. As the population is relatively homogeneous (same stove type, population, and cooking habits) with respect to the object of the sampling effort, simple random sampling method was found appropriate for the survey.

Monitoring Survey Results:

Sampling Parameter	Minimum Sample Size	Samples surveyed	Survey Result	Precision
Number of project devices in households of type i and batch j operating during year y, N_{HH}	3	158	99.37%	0.03%
Average annual consumption of woody biomass per person in the pre-project devices during the project activity, if it is found that pre-project devices were not completely displaced but continue to be used to some extent, $BC_{PJ,PP,Y}$	47	158	0.520	1.97%
Average Daily Consumption of Bioethanol in Households, $Q_{HH,Eth}$	77	158	0.563	4.18%

No CME sampling monitoring records/data results were found discrepant during the DOE verification site-visit. All the 22 samples checked by the verification team were found comparable with CME monitoring records and were also found to be operational during the onsite audit. Further, the verification team reviewed all the primary monitoring records to assess the consistency of information with ER calculation spreadsheet and found the monitoring data to be correctly transcribed into the ER sheet and MR.

Based on above, verification team concludes that sampling results and values presented by CME in the MR and ER calculation spread sheet with objective evidence as submitted in response to verification issues are consistent with the site visit observation and interview with the end users (HHs and SMEs). By means of above assessment, the verification team confirms that:

- the survey was implemented in accordance with the g"ideline "Sampling and surveys for CDM project activities and programme of ac"ivities ", version 04.0 and the "Standard: Sampling and surveys for CDM project activities and programmes of activities", Version 09.0/20/.
- The CME demonstrated to the satisfaction of the verification team that the survey conducted was free of any bias, calculation errors, misinterpretation, or misrepresentation of recorded data.
- The survey results met the required confidence/precision.

Assessment of Sampling parameters

For detailed assessment of parameter wise sampling, please refer below:

Parameter: N_{HH}

Description	Number of project devices in households of type i and batch j operating during year y
Compliance with Design Documents	The parameter is determined by multiplying the total number of cookers distributed to households with the percentage of cookers found operational during the household monitoring survey. The total number of cookers distributed to households is determined from the ERP database/24/. The percentage of cookers operational is determined through a sampling-based monitoring survey of households. During the household monitoring

	survey, the existence and functionality of the project appliance is confirmed by recording user response to the questionnaire and through a visual inspection of the cooker. The Verification team during the site visit verified a total of 22 samples from the CME sample list and all were found in operation across all the households. No discrepancies have been observed from the result presented by CME and DOE sampling.

Parameter: $BC_{PJ,PP,y}$

Description	Average annual consumption of woody biomass in the pre-project devices during the project activity, if it is found that pre-project devices were not completely displaced but continue to be used to some extent in the households
Compliance with Design Documents	The parameter is determined average consumption of woody biomass over the population by dividing the total annual woody biomass consumption in all households covered in the survey with total number of sample points. To determine this, the survey records the number of daily meals cooked on the pre-project or baseline stove as fraction of total daily meals cooked. The fraction contribution of the pre-project stove in cooking is multiplied by ex-ante fixed parameter "Quantity of woody biomass used in the absence of the project activity". This term is eventually deducted from the baseline emission calculation to discount the fraction of baseline stove usage during the project scenario.

Parameter: $Q_{HH,Eth}$

Description	Average daily consumption of bioethanol in a project cookstove (KOKO cooker) distributed to households
Verification	The parameter is determined by calculating the Average Bioethanol Consumption by the household customers. The average consumption is calculated by recording the user response for average monthly expense on KOKOfuel and dividing it by the average price of KOKOfuel during the monitoring period. DOE during site visit verified 22 samples from the household monitoring survey list applying acceptance sampling. The verification team cross-verified the average monthly consumption of bioethanol together with the biofuel price and availability. The average price of the fuel was also cross-checked from the company records of any changes made to the price of the fuel during the monitoring period.

Conclusion:

Based on the assessment of monitoring survey and sampling records and their analysis sheets for the related parameters, it is concluded that all the parameters have been monitored correctly in accordance with registered monitoring plan and the applied methodology.
The verification team can confirm that all sampled parameters have been determined correctly in line with the registered corresponding VPA-DD and the sampling standard. For all the parameters, the achieved relative precision of 10% and 95% confidence level is demonstrated to be met.

Based on above along with the site visit and interview and sample inspection records of the KOKO cooker installation in Kenya, the verification team concludes the approach and result deemed appropriate and acceptable.

Assessment of reported SDG parameters:

SDG Impact: Users' perception on smoke reduction (Air Quality, %)

Means of verification	**Relevant SDG**	SDG 3- Ensure healthy lives and promote well-being for all at all ages
	Monitored value	91.08% user confirmed smoke reduction
	Source of data	Monitoring survey report/38/ .
	Assessment team opinion	As per third party survey the sample end users reported positive feedback related to health and illness compared to baseline scenario. The monitoring procedure is as per registered monitoring plan and verification team also interviewed end users who confirmed positive feedback related to smoke reduction.
Findings	No finding was raised	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/07/ (as per measurement methods and procedures to be applied) and applied methodology/19/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/07/.	

SDG Impact: Number of women in managerial positions

Means of verification	**Relevant SDG**	SDG 5: Gender Equality
	Monitored value	37
	Source of data	HR racords
	Assessment team opinion	The CME has recruited 37 women managers in total and reported the positions as a direct effect of the project based on apportioning of total positions as per share of cookstove years (stove_years) in each VPA. The HR records were verified /51/. The cookstove years were verified from the cooker sales database for the respective VPA which also records the number of days completed by each KOKO Cooker. Therefore, the project does not reduce or put at r'sk women's access to or control of resources, entitlements, and benefits.
Findings	No finding was raised	

Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/07/ (as per measurement methods and procedures to be applied) and applied methodology/19/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/07/.

SDG Impact: Proportion of population or number of households with primary reliance on clean fuels and technology

Means of verification	

Relevant SDG	SDG 7: Access to Clean Energy
Monitored value	533,778
Source of data	Monitoring survey /38/
Assessment team opinion	As per survey result 99.37% samples are in operational state out of 537,163 population size. This results in 533,778 cookers are in operational. Therefore, these many HHs are accessed to affordable and clean energy services.

Findings	No finding was raised
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/07/ (as per measurement methods and procedures to be applied) and applied methodology/19/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/07/.

3.6 Compliance with the calibration frequency requirements for measuring instruments:

Means of verification	The assessment team has reviewed the VPA DDs and PoA DD, during the verification, to confirm that whether the calibration requirements for monitoring equipment's have been met; especially if the calibration frequency is in line with the requirements of the validated VPA-DD/PoA-DD and/or the applicable calibration standards. The applied methodology and the registered PoA monitoring plan do not make provision for calibration. The Efficiency of bioethanol KOKO Cooker is fixed. Thus, additional verification testing of stove efficiency was not deemed as necessary.
Findings	No Findings
Conclusion	The applied methodology and the registered PoA monitoring plan do not make provision for calibration.

3.7 Implementation of grievance mechanism:

The assessment team interviewed local stakeholders during the audit and confirmed that local stakeholders were satisfied about the project and do not have any negative comments. The users are of the positive opinion on the positive effects such as air quality, additional saving of wood due to the project activity. All the stakeholders (KOKO Cooker users) were aware of the grievance mechanism and knows how to contact the CME in case of grievances. There is no formal complaint received during the current monitoring period.

Based on the information verified during interviews of HHs and CME personnel during the site visit, the verification team able to conclude that:

- The grievance mechanism implemented is in place
- Complaints received from users are consistently recorded, however no formal complaints were received during the current monitoring period.

3.8 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

Means of verification	The following equations were used to determine the baseline emissions as provided in the monitoring report and applied in the corresponding ER calculations sheets. The expressions used were found consistent with the registered PoA-DD, registered VPA-DD and the applied methodology AMS-I.E. Version 09.0: Baseline emission is determined using the following equation in line with applied methodology: $BE_y = B_y \; x \; f_{NRB,y} \; x \; NCV_{biomass} \; x \; EF_{projected} \; x \; Stove_{year} \; x \; LAC$ BEy = Baseline emissions in the year y (tCO2e) By = Quantity of woody biomass that is substituted or displaced in year y (tonnes) $fNRB, y$ = Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable biomass (fraction or %) $NCVbiomass$ = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne) $EFprojected\_fossil\ fuel$ = Emission factor for the substitution of non-renewable woody biomass by similar consumers. Use a value of 63.7 tCO2/TJ2 = number of Year(s) the cIokstove i was operational Fraction during the monitoring period LAC = Leakage Adjustment Factor (Defa–lt Value - 0.95) For KOKO cookstoves operational in households, Option (b) is applied to calculate parameter By. $B_y = B_{HH,y} = N_{HH} x \; N_{p,HH} x \; (BC_{BL,PP,y} - BC_{PJ,PP,y})$ Where: $Np_{,HH}$ = Average number of persons served per household, number

	$BC_{BL,PP,y}$ = Average annual consumption of woody biomass per person before the start of the project activity, tonnes/person/year $BC_{PJ,PP,y}$ = If it is found that pre-project devices were not completely displaced but continue to be used to some extent, average annual consumption of woody biomass per person in the pre-project devices during the project activity, tonnes/person/year
Findings	CAR #2 was raised and resolved.
Conclusion	The assessments team confirms that: a) The complete data was available and is duly reported. b) As indicated above, the description about cross-check of reported data is included under respective parameter (refer Section E.3.4.2 of this report). c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals were followed. d) Appropriate emission factors, IPCC default factors and other reference values were correctly applied.

3.8.1. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	During the verification process, the assessment team has reviewed the MR, VPA-DD, ER calculation sheet and the approach followed for calculation of project emissions has been checked and confirmed the following: • The calculation of project emissions is fully traceable and, where used, the excel calculation provides all calculation formulae. • All internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet. • The applied formulae and methods for calculating project emissions are in accordance with the monitoring plan and the approved methodology. • All calculations are complete and without omissions.
Findings	No finding was raised
Conclusion	The assessment team able to confirm that the calculation of the project emissions has been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors, IPCC default values and other reference values have been correctly applied. No errors, miscalculations, omissions, misstateIents, or incomplete information have been identified.

3.8.2. Calculation of leakage GHG emissions

Means of verification	The leakage due to the use/diversion of non-renewable woody biomass saved under the project activity by non-project households/users that previously used renewable energy sources has been considered in the emission reduction calculation. In accordance with paragraph 24 of the applied methodology, a default net to gross adjustment factor of 0.95 to account for this leakage is applied.
Findings	No finding was raised.
Conclusion	The CME has applied a gross adjustment factor 0.95 as an alternative to leakages stated in para 34(a) and (b) of the applied methodology. The

	approach was found in line with the applied methodology and therefore, no further leakage emissions required to be accessed. Bio-ethanol stove are newly produced before distribution as confirmed during the audit/interview with the CME and KOKO stove users.

3.8.3. Summary of calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	As discussed in the above sections, the entire emission reductions from the VPA were based on baseline emissions. The calculations presented in this regard in the final monitoring report and corresponding ER calculations sheet were found appropriate and complying with the provisions prescribed in the registered monitoring plan of the VPA- DD and applied methodology. The verification team confirms that an audit trail that contains the evidence and records that validated the stated figures were checked and found acceptable.
Findings	No Findings
Conclusion	The verification team confirms that a) The complete data was available and is duly reported. b) As indicated above, the description about cross-check of reported data is included under respective parameter. c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed. d) Appropriate emission factors, IPCC default factors and other reference values were correctly applied. e) The total number of ERs achieved during the current monitoring period is 1,039,762 tCO_{2e}.

3.8.4. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	As verified and evident from the final Monitoring Report /02/ and corresponding ER sheet /04/, the actual emission reductions achieved by the project activity in the current monitoring period were found approximately 14% lower than the estimated quantity in the registered VPA-DD/07/ for the comparable period and comparable cookstove units.

estimated ERs for comparable period as per registered PDD (tCO2e) for the monitoring period	Actual ERs achieved in the current monitoring period (tCO2e)
1,210,071	1,039,762

Findings	No issues identified and hence finding was not raised for this section
Conclusion	The actual emission reductions achieved by the project activity are 14% lower than the estimated quantity of ERs in the registered VPA-DD after adjusting the ex-ante figure for the total distributed cookers and the duration of the monitoring period. The project distributed 537,163 cookers instead of the original design of 200,000 cookers but has operated for only a fraction of the year (0.352) instead of the whole year considered in the ex-ante calculation.

3.8.5. Remarks on difference from estimated value in registered PDD

Means of verification	The actual ERs exhibits variation from the ex-ante figure reported in the registered VPA-DD in the current monitoring cycle. It is due to the fact that the ex-ante ERs calculation in the VPA-DD was based on the estimated numbers of KOKO cookers as 200,000, however in the current monitoring period 537,163 KOKO cookers are distributed. Since the VPA consisting of only CDM micro-units and hence exempted from micro/small scale threshold limits. Hence, VPA-02 is not limited by the threshold's requirements for micro/small scale projects and may continue to include additional units. The deviation (Ref: Deviation DEV_247) for the same was approved by Gold Standard exempting VPA-0002 from any sort of micro or small-scale threshold limit.
Findings	No finding was raised
Conclusion	The actual ERs are higher than the estimated quantity of ERs as given in the registered GS VPA-DD. The additionality was demonstrated by using option 3 and applying CDM Tool 19: "Demonstration of additionality of microscale project activities". The applicability of the CDM Tool or the demonstration of the compliance is not impacted by violation of small-scale threshold, hence, the assessment team has concluded that the increase in emission reductions of the project activity is justified and acceptable.

3.9 Management and Operational System

The verification team carried out on-site visit to check the operations of the VPA covered under this verification and interviewed key personnel of the CME responsible for operation and management of the programme. Interviewees included the CME, KOKO stove distributors, cookstove users, and others. It was established that the programme management system has been implemented and operated as described in the PoA and included VPA.

The information about the user, type and installed cooker under each VPA is stored in the central ERP database that is maintained by the CME. The central ERP database records the unique identification number, location, installation (fulfilment) date, and usage status of each cooker in VPA, which helps to identify, locate, and verify any or all the units. CME has provided the ERP output file/24/ that is used to ensure that unique identification of CEPs can be tracked. This file has been verified for the number of users. The CME is responsible for QA/QC of the data, analysis, and reporting into the monitoring report. For survey data, a monitoring team has been organized by the CME consisting of trained monitoring staff, who conducted the surveys/field tests. The staff was interviewed, and training records/51/ were checked to ensure that they were trained for conducting the surveys/field tests. The Head of marketing research at the CME is responsible for QA/QC of the data, analysis and reporting into the monitoring report.

The verification team assessed the management systems in place to implement the monitoring of the PoA. This included the roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system. The roles and responsibilities, data collection transfer and aggregation procedures, data storage and archiving for the monitoring system have been provided in the MR. The verification team confirms that the monitoring management system of the PoA is in place with the responsibilities properly identified and established.

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4. REFERENCE

LIST OF DOCUMENTS		
S. No.	**Document/Evidence**	**Reference/Web link, Version, Date**
1	Monitoring Report	Version 01, 05/09/2022 Version 02, 22/02/2023 Version 03, 02/07/2023
2	Monitoring Report (final)	Version 04, 10/09/2023
3	ER calculation sheet	Version 01, 05/09/2022 Version 02, 22/02/2023 Version 03, 02/07/2023
4	ER calculation sheet	Version 04, 10/09/2023
5	Registered GS PoA-DD	Version 05 dated 31/08/2022
6	Validation Report for Registered GS PoA-DD	Version 03, dated 17/04/2022
7	VPA-DD titled "GS10884 - KOKO Kenya - Ethanol Cookstoves Program - CPA-0002"	Version 4.0, dated 01/06/2022
8	Validation Report for VPA-DD titled " GS10884 - KOKO Kenya - Ethanol Cookstoves Program - CPA-0002 "	Version 02, dated 06/06/2022
9	CDM VVS for PoA	Version 03
10	CDM PS for PoA	Version 03
11	CDM PCP for PoA	Version 03
12	GS4GG Principles & Requirements	Version 1.2
13	GS4GG Stakeholder Consultation And Engagement Guidelines	Version 1.2
14	GS4GG Community Services Activity-Requirements	Version 1.2
15	GS4GG Programme Of Activity Requirements	Version 1.2
16	GS4GG Safeguarding Principles & Requirements	Version 1.2
17	COVID 19: Interim Measures	v05 Dated 14/12/2021
18	Approved Deviation DEV_247	27/04/2022
19	AMS-I.E- "Switch from non-renewable biomass for thermal applications by the user"	Version 09
20	Standard: Sampling and surveys for CDM project activities and programme of activities	Version 09.0
21	Guideline: Sampling and surveys for CDM project activities and programme of activities	Version 4.0
22	Fuel transportation logbook	01/04/2022 to 31/08/2022
23	Undertaking by the CME regarding the procurement of bioethanol from the VIVO Energy Kenya	Dated 08/05/2020
24	Customer Sales Database sheet covering the applied Monitoring Period CDM Monitoring Survey Results Worksheet and Sample Size Calculation (CDM Survey Result CONFIDENTIAL(User Personal Details).xls)	-
25	Declaration Statement by VPA implementer that the VPA is not part of any other project activity	-

26	Proof of Carbon Credits waiver - End user Agreement (Samples)	-
27	Sample Purchase orders (Samples) for import of cookstoves from India issued by KOKO Networks Ltd	01/04/2022 to 31/08/2022
28	Digital Database of (KOKO stove sold) and sample digital application form	-
29	Registration of household in app-based software: screenshot of smart phone application (sample copy) from the KOKO Mobile App – Customer Journey	-
30	Evidence of installed KOKO Points – KOKOshop Database	As on 31/08/2022
31	Chemical & Industrial Consultancy Unit, Department of Chemistry, University of Nairobi for determination of the NCV of the biomass (bioethanol)	Dated 27/10/2022
32	1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book	https://www.ipcc-nggip.iges.or.jp/
33	2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book	-
34	Sample Usage Survey Forms- Google Form Usage survey analysis report integrated as part of the ER worksheet	-
35	GS4GG Monitoring Report Template	Version 1.1
36	Evidence for random number generator for sampling of households	-
37	Proposal for field surveys for 2nd periodic monitoring	-
38	Survey Records for the monitoring period	01/04/2022 to 31/08/2022
39	Sample Size Calculator Tool – Excel Sheet https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20150813144045237/Meth_guid48Calculator.xlsx	-
40	MoE survey report Kenya Household Cooking Sector Study	August 2019
41	GS4GG Monitoring Report Template	Version 1.1
42	Economic Survey 2018	-
43	Charcoal Sector Study Kenya published	January 2016
44	IPCC GHG Inventory Report 2019	-
45	Report for baseline fuel consumption in Kenya	Published in 2015 (https://cleancooking.org/wp-content/uploads/2021/07/426-1.pdf)
46	Report "United Nations: Energy for a sustainable Future".	April 2010
47	CONTROLLED COOKING TEST Report (Nairobi)	December 2020
48	ArcGIS published data	2019

	http://www.arcgis.com/home/item.html?id=d8c1d70fbb2d49028e0713d425b26805	
49	CDM Tool 30 "Calculation of the fraction of non-renewable biomass" https://cdm.unfccc.int/Reference/tools/index.html	-
50	Certificate of Incorporation CME	Dated 31/08/2015
51	HR records for management team Training Records for field survey team	-
52	Declaration that no evidence of insolvency or legal/criminal notices placed against it or any of its directors	
53	Kenya Integrated Household Budget Survey 2015/16	-
54	Internal Email communication of KOKO - Approval email of the proposal for conducting anual carbon survey for 2022 - Release of Cooker Database for Q1 2022 (Till 31st March 2022) by the Analytics Department - Release of shortlist of the samples for conducting the survey	24/03/2022 19/04/2022 04/05/2022
55	Voluntary Registry Offset Database V-8 published by Berkeley Public Policy https://gspp.berkeley.edu/research-and-impact/centers/cepp/projects/berkeley-carbon-trading-project/offsets-database	10/05/2023
56	KOKO Cooker Repair & Maintenance Records	May-Dec'22
57	Customer Complaint Summary Sheet.xls	-

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5. FINAL VERIFICATION STATEMENT

Applus+ Certification verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Applus+ Certification planned and performed the verification by obtaining evidence and other information and explanations that Applus+ Certification considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity are fairly stated in the Monitoring Report (final) Version 04 dated 10/09/2023. Applus+ Certification, based on outcome of verification activities, certifies in writing that, during the monitoring period 01/04/2022 – 31/08/2022 (including both days), the registered GS VPA 11440 "GS10884 - KOKO Kenya - Ethanol Cookstoves Program - CPA-0002" in the registered GS VPA achieved the verified amount of 1,039,762 tCO2e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the VPA.

The verified amount of emission reductions is stated below under the current monitoring.

	Emission Reductions (Amount) in this monitoring period	
Year	**Duration**	**Emission reduction (GS-VERs)**
2022	01/04/2022 to 31/08/2022	1,039,762 tCO_2e
Total	-	1,039,762 tCO_2e

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Date: 14/09/2023

Lead Auditor: Vivek Kumar Ahirwar
Tech. Expert: Vivek Kumar Ahirwar
Tech. Reviewer: Simon Shen

Approver *(Applus+ Certification Business Unit Managing Director)*
Mr. Agustín Calle de Miguel

ASSESSMENT TEAM	
Team Leader Vivek Kumar Ahirwar	**Technical Reviewer:** Simon Shen
Signature: 	Signature: 
Approver: Mr. Agustín Calle de Miguel	
Signature: 	

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

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:		Ref. to checklist in above tables:	1.1
Description of the audit finding		Date:	20/09/2022
Value of SDG 13 (ERs achieved) as mentioned in the MR is not consistent with the ER calculation sheet. Please submit the sales database and monitoring survey reports valid for current monitoring period along with the reliability test results for the sampling.			
Project Participant's response		Date:	23/02/2023
The values are now revised to make them consistent. The sales database and survey report (containing the reliability test) are submitted through Google Drive.			
Documentation provided as evidence by Project Participant			
Revised MR Revised ER sheet			
Auditor's assessment comment		Date:	20/03/2023
The CME has corrected the value of SDG 13 in the MR, consistent with the ER calculation sheet. The CME has submitted the sales database and monitoring survey reports along with the reliability test results, found to be satisfactory. CL #1 is closed.			

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Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:		Ref. to checklist in above tables:	3.4
Description of the audit finding		Date:	20/09/2022
Value of parameter relevant to SDG 5 is decreased as compared to the previous monitoring period. Please clarify the reason and submit the evidence for SDG 5 monitoring parameter (number of women employments). Number of KOKO points reported in the MR are increased as compared to previous monitoring period, however electricity consumption is reduced. Kindly clarify the reason. Kindly provide the list of KOKO points operational during the current monitoring period and the basis for selection of KOKO points.			
Project Participant's response		Date:	23/02/2023
There was a typographical error in the documents which is corrected now. We have submitted the evidence through google drive. The number of women managers have increased over the time. The electricity consumption is a function of both number of KPs and the duration of operations. The last MP had a duration of 1.25 years while the current MP has a duration of 4 months. Hence, the reduction in electricity consumption. The list of operational KPs is shared on google drive.			
Documentation provided as evidence by Project Participant			
Revised MR Employment records			
Auditor's assessment comment		Date:	20/03/2023
The CME has rectified the typo error with reference to the value of parameter relevant to SDG 5 and found to be consistent with the employment records. Explanation regarding the decrease of electricity consumption at KOKO Points as provided by the CME is found to be appropriate, hence accepted. The CME has provided the list of operational KPs and found to be satisfactory. CAR #1 is closed			

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Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:		Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	20/09/2022
As per the MR (P.24), monitoring survey was conducted during April-May 2021.However the ER calculation sheet mentions that survey conducted in 2022.Kindly clarify the ambiguity. Also justify the validity of the survey for the current monitoring period. Value of the parameter "Avg Fraction of year(s) the cookstove is operational in Household during the monitoring period" as mentioned in the MR is not consistent with the ER calculation sheet.			
Project Participant's response		Date:	23/02/2023
There is a typo error in MR, which is now corrected in the revised version. The annual survey results used in this MP was conducted in the year 2022. The survey report for the same is submitted through google drive. As the survey is conducted during the month of May 2022, it is valid till April 2023 as per GS guidelines. The value of the parameter "Avg Fraction of year(s) the cookstove is operational in Household during the monitoring period" is now made consistent across documents.			
Documentation provided as evidence by Project Participant			
Revised MR			
Auditor's assessment comment		Date:	20/03/2023
Monitoring survey was conducted in May 2022, the CME has corrected the dates in the revised MR, found to be satisfactory. The CME has corrected the value of the parameter "Avg Fraction of year(s) the cookstove is operational in Household during the monitoring period" in the MR and found to be consistent with the ER calculation sheet. CAR #2 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:		Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	07/08/2023

The baseline emission calculated (Tab BE) in the ER sheet does not seem to account the proportion/percentage of household which were found operational during the survey (99.37%). Please correct the error in the calculation.		
Project Participant's response	Date:	16/08/2023
The proportion/percentage of operational Cookers was inadvertently missed in the baseline emission calculation performed in the BE tab. This is now accounted in the ER calculation.		
Documentation provided as evidence by Project Participant		
Revised MR & ER Calculation Sheet		
Auditor's assessment comment	Date:	24/08/2023
The revised ER sheet was found to apply percentage factor for the households which were found operational in the baseline emission calculation. The calculation were found to be correctly applying the methodological equations and parameters. The project emissions remain unchanged as there is no impact expected of this factor on the same. The revised figures of baseline emissions and emission reductions are correctly reported in the revised MR. CAR #3 is closed.		

Type:	☒ CAR	☐ CL/CR	☐ FAR	Number: 04
Raised by:				Ref. to checklist in above tables: 3.2
Description of the audit finding				Date: 07/08/2023
The repair & maintenance database submitted to the VVB in the previous assessment does not clarify what impact it will have on the emission reduction calculation.				
Project Participant's response				Date: 16/08/2023

CME has a robust customer complaint management system overseen by the Operations and Maintenance staff. Unlike other community service projects, the complaints related to KOKO Cooker are managed by a strong team of 150 KOKO staff members comprising of customer care and operations team and 2400 KOKO agents who are local shopkeepers having day-to-day interactions with the KOKO customers.

KOKO Cookers are developed on a very strong structure with long durability parts which enables a life span of 10 years with minimum operational issues. Due to the modular design of the cooker, the parts are easily replaceable on-site with minimal effort. While minor inquiries & complaints may arise, they are promptly addressed through telephone consultations, swiftly resolving the issues at hand. In cases where technical concerns persist, on-site field experts' step in to troubleshoot and fix the problem. Only in case of major technical issue which cannot be addressed on-site, the equipment is taken to a workshop for thorough repair, meanwhile the user is provided with a standby cooker. This ensures that there is no loss of operational days by the users. The details of repair & maintenance management system are provided below.

The local KOKO agent delivers the KOKO Cooker kit, once the customer completes the kit purchase process on KOKO app. The KOKO Cooker kit includes the User Manual which consists of usage and maintenance instructions and the customer care details (toll free number, whatsapp number, SMS number & email ID). The KOKO customer care access is also available on KOKO app. Additionally, customers can also approach local KOKO agents for registration of the inquiries & complaints.

Once the complaint is registered by the customer care, the customer care team connects with the complainant and seeks details on the issue. The customer care team is well equipped with the training on troubleshooting minor issues on phone and collecting useful information to prepare for the home visit if the issue is not addressed telephonically. The complaint is then transferred to the technical team which conducts the on-site customer visit along with the necessary spare parts and tools to resolve the issue.

The survey, conducted by KOKO, includes a specific question regarding the regular operation of the cookers. This question aims to determine if users have encountered any instances where the technical malfunctioning of the cooker led to operational downtime. Notably, the survey found no such occurrences, affirming the reliability and consistent performance of the KOKO Cookers.

Documentation provided as evidence by Project Participant
Repair & Maintenance Database HR staff records (Customer Care & Cooker Operations Department) KOKO Agent records

Auditor's assessment comment	Date:	24/08/2023
VVB confirmed from the HR records and agent records that CME has robust staff strength to manage complaints on immediate basis. The design of cooker and availability of spare were also checked by the VVB from KOKO Cooker design records and inventory management system which confirm adequate design provision and availability of supplies to perform repair & maintenance activities on-site. However, the response does not discuss the impact of O&M on ER calculations. The CME should provide adequate justification to demonstrate the impact on ER. It is not clear if the CME has excluded any non-operational period due to repair & maintenance of cookers in the ER calculation. CAR#4 open		

Project Participant's response	Date:	10/09/2023

CME considers that there is no impact of maintenance activities on the ER calculation due to the following:

a) **No Methodological Provision for monitoring/accounting of maintenance Activities**: The applied baseline and monitoring methodology does not have any provision for accounting loss of operational days due to repair & maintenance activities unless it is a significant source (>1%).

b) **Low Percentage of Complaints**: Due to robust design & structure, there are minimal complaints/issues from operations of KOKO cooker. Due to various offline and online options for access to customer care, KOKO ensures that no customer issue goes unreported. Additionally, KOKO also conducts field visits on all neighbourhoods to understand the issues faced by the customers. Based on these reported complaints & field visits, KOKO also prepares a weekly report to analyze the issues and the corrective & preventive measures to address them. KOKO has a strong design feedback mechanism which ensures that the future batches of cookers witness lower level of issues/complaints.

c) **Fast Resolution of Complaints**: Due to strong telephonic consultation capabilities, KOKO is able to address most of the minor issues & troubleshooting on immediate basis. For the residual complaints where on-site visit is mandatory, KOKO is able to maintain a standard resolution time within 3 working days due to strong local team and on-site repair capabilities.

KOKO has submitted the repair & maintenance records for the period of May to Dec 2022 for verification. Based on the summary of the maintenance records, KOKO Networks has done a ball-park calculation to estimate the potential impact on ERs during the monitoring period:

Total Cookers	Total Stove-Years for all cookers (Years)	Total Cookers affected by complaints/maintenance	Stove-Years loss due to maintenance (Years)
537163	190135.83	12685	-97.42
% Impact		2.361%	-0.051%

Source: summary of the maintenance and repair data (Ref – Customer Complaint Summary Sheet.xls).

The above analysis demonstrates that KOKO Networks has developed design of the cooker with high durability & implemented agile repair & maintenance systems which ensures minimal operational impact for the customers. The expected impact is insignificant to be accounted for ER calculations and not required to be accounted by the methodology (if less than 1% of ERs). Hence, no correction factor is included in the ER calculation.

Documentation provided as evidence by Project Participant

Customer Complaint Summary Sheet.xls

Weekly Issue Report.ppt

Auditor's assessment comment	Date:	14/09/2023

Though the monitoring of O&M is not discussed by the applied methodology, but analysis of its impact is an opportunity for improvement of accuracy of ERs if found significant.

VVB verified the Summary of repair & maintenance records (Customer Complaint Summary Sheet.xls) provided by the CME with the repair & maintenance database. The VVB confirmed that the total complaints were 20295 from May-Dec 2022. As maintenance data for the April 2022 was not available due to migration of complaint management system, the estimation of complaints for the monitoring period was done using interpolation of data which was found appropriate. The calculation of impact on ERs was also thoroughly verified and found appropriate. The CME has also provided scenario analysis of the expected complaints level for future years which is found reasonable for the project design and operations.

Based on the above assessment, VVB confirms that the expected impact of repair & maintenance activities on the ER calculations will remain below 0.1% and it is unlikely to adversely impact the ER calculation accuracy in any significant manner.

CAR#04 closed.

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Appendix 2: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Vivek Kumar Ahirwar	Vivek Kumar Ahirwar is a BEE-Certified Energy Auditor by Govt of India with over eight years of relevant experience in energy efficiency, energy audit, thermal and electrical energy generation technology from renewable source and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects in different states across the India. He has done Mater in Technology (Energy Management) from a premier institute, School of Energy & Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from Govt. Engineering college, Rewa, RGPV, India.
Simon Shen	Simon Shen (Master's Degree in Thermal Energy Engineering, Bachelor's Degree in Environmental Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work experience in CDM/GS4GG/VCS project assessment and review with Applus+, apart from the years of experience working as GHG Auditor and ISO 9001/14001 in TUV SUD before he joined Applus+ for 3.5 years. Mr. Simon Shen has extensive experience also as former Applus+ Shanghai CDM Technical Manager.