

Verification report for GS4GG project activities (Gold Standard for the Global Goals)	
BASIC INFORMATION	
Title of the GS4GG Programme	Energy Efficient Cook Stoves for Siaya Communities, Kenya
Reference number of the Programme	GS879
Version number of the verification and certification report	1.3
Completion date of the verification and certification report	30/09/2024
Monitoring period number and duration of this monitoring period	2nd CP-6 th Monitoring period: 01/01/2023-31/12/2023(inclusive of both dates)
Version number of the monitoring report to which this report applies	V1.3 Dated 19/09/2024
Crediting period of the Programme corresponding to this monitoring period	2 nd CP 27/03/2018 to -31/12/2024.
Date of project design certification	1 st CP 03/07/2012 (CP-2 Renewal date- 27/03/2018)
Host Party	Kenya
Applied methodologies and standardized baselines	Gold Standard methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption v2.0 (24/04/2015).
Activity requirements applied	☒ Community Services Activities Renewable ☐ Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Mandatory sectoral scopes	Sectoral 3

Product requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
Name of the Gold Standard approved auditor (VVB)	Earthood Services Private Limited
Name, position, and signature of the approver of the verification and certification report	 Dr. Kaviraj Singh Managing Director

SECTION A. Executive summary

The registered GS project activity (GS 879) entitled "Energy Efficient Cook Stoves for Siaya Communities, Kenya" involves promotion and dissemination of rocket-type energy-efficient biomass stoves in Siaya County, Kenya. The project focuses on rocket-type stoves that are designed to reduce greenhouse gas emissions resulting from the burning of non-renewable woody biomass, specifically used on the "3-stone cookstoves commonly used in the region.

The project's energy-efficient stoves are constructed using locally available materials such as mud, bricks, and sawdust. These stoves are of high quality, cost-effective, and installed in a fixed position with two separate cooking units. By utilizing these stoves, indoor air pollution caused by open fire biomass burning is significantly reduced. The project also employs local artisans to construct and install the stoves, contributing to the local economy while improving the environment.

The promotion of the rocket-type cookstove in this project activity not only reduce GHGs, but also provide co-benefits to users such as reduced expenditures on fuel (wood) purchase, reduced respiratory diseases from air pollutants, and time savings from wood collection. Finally, the project stove contributes to decreased demand for fuel wood thus reducing deforestation in the county of Siaya. The Project activity applies Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 2.0 of (24/04/2015)/2/.

This is the 6th monitoring period under the second crediting period.

1st Crediting Period: 01/01/2011 to 31/12/2017.

2nd Crediting Period: 01/01/2018 to 31/12/2024.

The project developer of the project activity is Foundation myclimate and Tembea Youth Centre for Sustainable Development Group which also act as the technology supplier for the registered PA. The monitoring period covered under this verification is 01/01/2023 to 31/12/2023 (inclusive of both days). The total GHG emission reductions for the current monitoring period are 289,372 tCO₂e. Further, The SDG benefits achieved from the Project Activity are listed in the table below in detail:

Sustainable Development Goals Targeted	SDG Impact	Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period	Units/Products
SDG 13	Amount of CO ₂ e emissions reduced by the project per year.	289,372	VERs (tCO ₂ e)
SDG 1	Time (hours) and money (KES) saved per household per year due to fuel savings achieved by project stoves	192 8564	Hours KES per household per Year
SDG 3	Proportion (%) of positive comments from stove users on air quality improvement with project stove	100%	%
SDG 4	Number of persons reached with awareness creation	2,364 0 schools	Number
SDG 5	Number of jobs offered by TYCSD to local female employees	109 46% of the total employment generated during the current MP.	Number of female employees
SDG 7	Number of persons that benefit from efficient and clean cooking technologies	28,064	Number of Beneficiaries

SDG 8	Number of jobs offered by TYCSD to local employees at good conditions.	236	Number of employees
SDG 12	Fuel savings in % achieved by project technologies compared to baseline.	54.0%	Percentage

Scope of verification:

The verification is an independent and objective review for determination of the monitored reductions in GHG emissions by the VVB. The verification includes the implementation and operation of the PA as set out in the registered PDD/1/ in the current monitoring period.

The verification tests the data and assertions set out in the monitoring report prepared for this monitoring period, and is based on the review of the following:

- (i) The applied GS4GG methodology, Technologies, and Practices to Displace Decentralized Thermal Energy Consumption, Version 2.0 /2/
- (ii) The registered PDD/1/ and registered monitoring plan/1/
- (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/38/
- (iv) GS4GG Principles and Requirements, version 1.2/5/,
- (v) GS4GG Community Services Activity requirements, version 1.2/7/
- (vi) Validation and Verification Body requirements
- (vii) Validation and Verification Standard Version 1.0/39/
- (viii) GHG Product requirements Version 2.3/6/
- (ix) and references relevant to the project activities reported SDG outcomes. /40/.

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 GS4GG, as appropriate to the PA. The verification is not meant to provide any consulting or recommendations to the PD/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

Verification Process:

The verification process is conducted as per GS4GG Requirements, which includes the following steps:

- a. Contract with PD (client) and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)
- b. Desk review (refer Section D.1 of this report) of Monitoring Report and corresponding ER sheet by verification team and onsite audit (including sampling approach (refer Section D.4

- of this report) to be applied)
- c. On-site, remote audit or Hybrid audit as per Site visit Requirements (refer Section D.2 of this report) by verification team consistent of Team Leader and all Technical Experts, as a minimum
 - d. Follow up activities e.g., interviews (refer Section D.3 of this report)
 - e. Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.5 of this report)
 - f. Independent technical review (refer Section B.2 of this report) of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidence)
 - g. Reporting and closure of TR comments/findings (refer Section D.5 of this report) (CARs/CLs/FARs) and final approval for the decision made (refer Section G and H of this report).
 - h. Issuance of final verification report to contracted CME (or authorized representatives) and submission of request for issuance, as appropriate.

Verification Conclusion:

Based on the outcome of the verification process of the registered GS PA (GS879) "GS "Energy Efficient Cook Stoves for Siaya Communities, Kenya Project" for the monitoring period 01/01/2023 to 31/12/2023 (inclusive of both days), we confirm that the implementation of referenced registered PA is complying with applicable GS4GG rules and regulations as stated in the Monitoring Report (final) version 1.2, dated 24/07/2024/3/. The GHG emission reductions were calculated correctly based on the applied baseline and monitoring methodology, Technologies, and Practices to Displace Decentralized Thermal Energy Consumption Version 2.0 /2/and the monitoring plan contained in the registered PDD/1/.

Earthood Services Private Limited can certify the emission reductions from the registered PA " Energy Efficient Cook Stoves for Siaya Communities, Kenya " for the monitoring period 01/01/2023 to 31/12/2023 (including both dates) amount to 289,372 tCO₂e. Therefore, this is being submitted as a request for issuance, as per Gold Standard procedures.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team members

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	Site inspection (remote)	Interviews	Verification findings
1.	Team Leader, GS Approved Auditor	IR	Phukan	Sukanya	Central office	Y	Y	Y	Y
2.	Technical Expert (TA3.1)	IR	Phukan	Sukanya	Central office	Y	Y	Y	Y
3.	Local Expert & Verifier	IR	Njata	Virginia	Central Office	Y	Y	Y	Y

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	IR	Guleria	Shifali	Central Office
2.	Technical Expert (TA 3.1) to TR	IR	Guleria	Shifali	Central Office
3.	Approver	IR	Singh	Kaviraj	Central office

SECTION C. Application of materiality in conducting the verification

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Erroneous transfer of information from documents (construction/ installation records, carbon waiver forms, monitoring data etc) to ER sheet/Database.	Low	There is a thorough internal mechanism established to check and verify the accuracy of data entry by different departments through all stages of implementation, monitoring, and reporting.	On a sampling basis, the data was crosschecked against information in the database, carbon waiver records, Monitoring data, and substantiated during on-site and remote audit observations by Team Leader, local expert or verifier.
2.	Error in applying the correct formulae in the emission calculation sheet	Low	The applied methodology has elaborate calculation methods which are further detailed in the PDD. There isn't any complex equation involved in the ER calculations. Also, the internal check ensures that such errors are identified in advance.	The emission reduction calculation sheet/4/ has been reviewed in detail by the assessment team. Each step for the calculation has been thoroughly checked and recalculations done to confirm the final ER and SDG values.

C.2. Consideration of materiality in conducting the verification

In accordance with GS VVS for PAs, Version 1.0/39/ the prescribed thresholds for materiality for GS4GG PAs are as under Para 9.6.3 “(c) 2 per cent of the emission reductions or removals for large-scale project activities achieving a total emission reduction/removal of 300,000 tonnes of carbon dioxide equivalent per year or less; The PA is a largescale as per section A.4 of the registered PDD V.3.2.6 dated 10/02/2023/1/.

The applicable materiality threshold is 2.0%;

Particulars / Monitoring Report	MR Version (Initial)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO ₂ e) in this monitoring period	298,605	289,372
Applicable Threshold (%) as per GS4GG VVS for PAs Version 1.0	2.0%	2.0%

Verification Report on Materiality Breach

As per the VVS v1.0, paragraph 9.6.8, “The materiality thresholds apply to the total emission reductions actually achieved. When planning verification, the VVB should apply the applicable materiality threshold to the reported total emission reductions. If, as a result of the verification, the initial reported total emission reductions are revised, the VVB should reapply the materiality threshold to the revised total emission reductions and, if needed, make adjustments to its verification plans and sampling plans.”

Initially, the project reported 298,605 tCO₂e ERs, establishing a materiality threshold of 5,972.1 tCO₂e (2% of the initial reported amount: 298,605 tCO₂e × 0.02). As per paragraph VVS v1.0 Para 9.6.3, the verification team determined that the overestimation of the total emission reductions was due to a material misstatement.

Following the verification process, the total ERs were revised to 289,372 tCO₂e. The verification team recalculated the materiality threshold for this revised figure, resulting in a new threshold of 5,787.44 tCO₂e (2% of the revised amount: 289,372 tCO₂e × 0.02).

The verification team identified a materiality breach due to the difference between the initial

reported total and the revised total emissions, which was 9,233 tCO₂e (calculated as 298,605 tCO₂e - 289,372 tCO₂e). This difference exceeded both the original materiality threshold of 5,972.1 tCO₂e and the newly calculated threshold of 5,787.44 tCO₂e, indicating a materiality breach. However, the assessment team determined that the errors were not systemic but rather isolated incidents, as stated in VVS v1.0, paragraph 9.6.10. According to paragraph 9.6.11, while the error was material, it did not indicate a systemic breakdown in the Project Developer's quality control system. Therefore, the assessment team concluded that while the misstatement was material, further adjustments to the verification and sampling plans were not necessary.

Explanation of the Breach and Resolution

The materiality breach occurred due to a misstatement error, where the PD used outdated 2021 study values for the parameter **Pp,b,y** - t_biomass/unit-year and t_biomass/unit-day, instead of the most recent 2023 study values. This misstatement led to an overestimation of the calculated ERs. In compliance with section 9.6.9(b), the verification team assessed the potential errors and confirmed that the misstatement warranted correction due to its material impact on the reported figures. In accordance with section 9.6.6 of VVS v1.0, "Applying the concept of materiality does not mean that identified errors are not corrected; if an error, omission or misstatement is identified by the VVB, regardless of whether it is material or not, the VVB shall request Project Developer(s) to address it." Therefore, as per Para 9.6.11, the assessment team requested the PD to correct the misstatement by linking the correct values from the most recent study for the parameter **Pp,b,y**.

The PD duly addressed the error, and the verification team recalculated the ERs using the correct data to ensure that corrections were accurate. Since the misstatement was an isolated case and there was no indication of systemic re-occurring errors in the PD's quality control, as outlined in section 9.6.10, no revisions to the verification and sampling plans were necessary.

With the correct data now applied, the verification team confirms that the final Emission Reductions are free from significant errors, ensuring a reasonable level of assurance that the figures are accurate and credible.

SECTION D. Means of verification

D.1. Desk/document review

The verification is performed primarily as a desk review of the documents submitted at various stages of assessments. The review is performed by the assessment team using dedicated protocols (checklists). The assessment team cross checks the information provided in the documents (MR)

and information from sources other than those used, if available, and conducts independent background investigations. Earthood conducted a desk review as under:

1. A review of the data and information presented to verify their completeness.
2. A review of the monitoring plan (as described in PDD), the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures
3. A review of calculations and assumptions made in determining the GHG data and emission reductions.
4. An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions

The list of documents reviewed during the verification is provided under appendix 3 of this report.

D.2. Remote inspection

Duration of remote inspection: 04/04/2024				
No	Activity performed Virtually	Site location	Date	Team member
1.	Opening Meeting	Kenya	04/04/2024	Sukanya Phukan, Virginia Njata
2.	Confirmation of Implementation and operation of project activity (project boundary, project technology) as per registered PDD			
3.	Confirmation of Management and monitoring procedures, data collection and archiving systems followed at project site			
4.	Interviewing PD monitoring Personnel and end-users (as per as VVB sampling plan)			
5.	Confirmation of Management and operational system: Database management, allocation of responsibilities, qualification and training, ICS distribution, Monitoring survey, internal audit and management review			
6.	Crosschecking of Verification checklist: i.e. PD's monitoring survey records, compliance of monitoring procedures with registered PDD and applied monitoring methodology.			

7.	Review of monitored data and relevant document in accordance with registered monitoring plan and applied monitoring methodology.			
8.	Review of ER calculations in accordance with applied methodology and relevant tools.			
9.	Closing Meeting			

For the current verification, VVB had conducted a remote audit project's compliance with implementation requirements. According to GS4GG Site Visit and Remote Audit Requirements and Procedures – V.2.0 Para 3.1.1 and 3.1.2/42/, The frequency of physical site visits for standalone projects may be conducted "Once every three years after the first physical site visit". The most recent visit for the project activity was conducted in 2023. Therefore, the last site visit having been completed in 2023, remote audit was considered viable and compliant to GS4GG minimum physical site visit timeframe requirements.

D.3. Interviews

No.	Interviewee			Date	Subject	Team Member
	Last Name	First Name	Affiliation			
1.	Orina	Job	Myclimate Foundation	04/04/2024	Project implementation, Management system, ICS distribution mechanism	Sukanya Phukan, Virginia Njata
2.	Omondi	Victor	Tembea Youth Group-Officer		ER calculations, Monitoring Report, Monitoring procedures	Sukanya Phukan, Virginia Njata
3.	Otieno	Eric	Tembea Youth Group-Officer		Monitoring Surveys, Sampling methodology	Sukanya Phukan, Virginia Njata

4.	Otieno	Stephen	Tembea Youth Group-Officer		Monitoring Surveys, Sampling methodology	Sukanya Phukan, Virginia Njata
5.	Agut	Kevin	Tembea Youth Group-Officer		Database management, Sales records, Training procedures	Sukanya Phukan, Virginia Njata
6.	Aoko	Anjeline	Tembea Youth Group-officer		Database management, Sales records, Training procedures	Sukanya Phukan, Virginia Njata

MUS User Interviews						
1.	Esther	Ochieng	End-user	04/04/2024	VVB Field Survey	Sukanya Phukan, Virginia Njata
2 .	Awanda	Mary Achieng	End-user		VVB Field Survey	Sukanya Phukan, Virginia Njata
3.	Opondo	Paul	End-user		VVB Field Survey	Sukanya Phukan, Virginia Njata
4.	Opondo	Lisah	End-user		VVB Field Survey	Sukanya Phukan, Virginia Njata
5.	Awino	Teresia	End-user		VVB Field Survey	Sukanya Phukan, Virginia Njata

6.	Ooko	Melenia	End-user		VVB Field Survey	Sukanya Phukan, Virginia Njata
7.	Achieng Odhiambo	Conslata	End-user		VVB Field Survey	Sukanya Phukan, Virginia Njata
8.	Ochieng	Dorcas TA	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
9.	Omondi	Lilian	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
10.	Sewe	Dorine	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
11.	Atieno Otieno	Doris	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
12.	Hasero	Bona Auma	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
13.	Odongo	Mary	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
PFT User Interviews						
1.	Akoth Osogo	Plister	End User	05/04/2024	VVB Filed Survey	Sukanya Phukan, Virginia Njata
2.	Ondawa	Leonida	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata

3.	Apondi Onyango	Pamela	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
4.	Anyango Owino	Millicent	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
5.	MALA	Patricia	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
6.	Adhiambo	Helida	End User		VVB field Survey	Sukanya Phukan, Virginia Njata
7.	Atieno	Anne	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
8.	Malasre	Florence	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
9.	Aloo	Conslata	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
10.	Adhiambo	Pamela	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
11.	Auma	Eunice	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
12.	Adhiambo	Joyce	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata
13.	Ooko	Ruth	End User		VVB Field Survey	Sukanya Phukan, Virginia Njata

D.3.1. Type of questions asked to end-user by the Verification Team members.

No.	Questions asked by Team member to End Users/Local Stakeholders	Nature of Responses Received
1.	Are you using the project stove?	Positive
2.	Is the Project Stove proving to be useful to you?	Positive
3.	Do you feel improvement in your health and surrounding air quality after using the Project Stove?/overall experience.	Positive
4.	Are you spending less money or time (collection) on fuelwood after using the project device?	Positive
5.	Are you aware of continuous input/ grievance mechanism?	Positive
6.	Have you signed a carbon transfer form?	Positive
7.	Name of Beneficiary	Consistent
8.	Location of Household	Consistent
9.	Stove ID	Consistent

All the end users reported that Project Stove is operational and noted improvements in indoor air quality, as well as savings in both money and time with the use of the project's improved cookstoves. Additionally, all end users confirmed their awareness of the grievance mechanism. No negative feedback was received during the audit process.

D.4. Sampling approach

In accordance with the applied GS4GG methodology, Technologies and Practices to Displace Decentralized Thermal Energy Consumption, Version 2.0/2/, the PD has applied a simple random Sampling and considered each age group for all surveys conducted during the monitoring period, as per registered PDD /1/. A sample of 594 Usage Survey households were randomly selected from all age groups. Each household set for each vintage year met the minimum 30 households prescribed by the applied methodology/2/. A random sample of 79 households was also taken from the database for PFT study. Both the Usage Survey and PFT random samples were all derived

from the sales database of a total population of 129,648 stoves. PD has followed annual sampling for the current monitoring period. The sampling approach undertaken by the by PD is explained in Section D.4 of the monitoring report. The values of samples documented for both studies have been confirmed from the Usage survey/32/ and PFT/17/ data documents. Additionally, PD has provided a snapshot of the randomizer applied in the sampling process.

D.4.1. VVB's sampling approach:

In order to meet the requirements of Standard for Sampling and surveys for CDM project activities and programmes of activities version 9.0/9/, the verification team applied acceptance sampling in the verification (in accordance with para 28). The verification team selected random samples of PD's sampled records, checked the acceptability (or otherwise) of the data for each such record with PD's sample records, and then based on the number of records where there is agreement, determined if the PD's sample records meet the requirements. Hence VVB has considered 18 samples of ICS for the current verification.

The verification team, using its own professional judgement and guidance in the Standard 'Sampling and surveys for CDM project activities and Programme of activities'/9/, determined the sample size for acceptance sampling by evaluating the following:

- The proportion of discrepancies between the PD'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): 0.5% was considered in this verification.
- The proportion of discrepancies between the PD's data and verification team's (field or onsite inspection results) data would be considered unacceptable. This is the UQL (Unacceptable Quality Level): 20% was considered in this verification.
- The producer risk of 10% and consumer risk of 10% was considered.

Project ID	AQL	UQL	Producer risk	Consumer risk	Sample Size	Acceptance no.
GS 879	0.5%	20%	10%	10%	11	0

Considering the above input values, a sample size of 11 was required as per Table 2 in the referred Standard for the monitoring period. Accordingly, acceptance number (c) thus determined for the sample size is 0. A sample size of 11 meets the criteria. However, in line with GS site visit

requirements v2.0/42/, an additional 10% samples were covered by the VVB making the total sample size as 26. The samples to be surveyed by VVB were randomly selected from the list of annual usage survey samples using the random sample generation function on Microsoft excel.

The assessment team picked 13 samples each (for monitoring survey and PFT survey across all age groups on random basis from the PD's survey records of (594+79) end users (for all ages) for the Monitoring and Usage survey /32/and PFT/17/ conducted in 2023.

Communication with end users was conducted in advance to ensure they consented to the visit and to answer the questionnaire. All 26 samples were responsive; therefore, they were all audited by the verification team. There were no major discrepancies in the information gathered during the interviews with that of the PD's monitoring data.

The PD applied a sampling approach which is sufficiently representative of the stove population with reference to the numbers and vintages, as demonstrated appropriately in the ER sheet/4/. VVB confirmed that data analysis was conducted using excel functions, and that the required confidence/precision level has been met as per the applicable methodology monitoring. Usage survey values in this case are not subject to confidence/precision calculation. Therefore, the assessment is subjected to PFT values. The sampling method used by PD is in line with applied GS4GG methodology, Technologies, and Practices to Displace Decentralized Thermal Energy Consumption, Version 2.0 /2/.

D.5. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	CL#01,		
Remaining forward action requests from validation and/or previous verifications			
Compliance of the project implementation with the registered project design document		CAR#01	
Implementation and operation of the management System			
Post-registration changes			
Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline			
Corrections			
Changes to the start-date of the crediting period			

Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline.			
Changes to project design of approved project			
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	CL#02		
Compliance of monitoring activities with the registered monitoring plan		CAR#04	
Implementation of sampling plan		CAR#03	
Compliance with the calibration frequency requirements for measuring instruments			
Assessment of data and calculation of emission reductions or net removals		CAR#02	
Assessment of data and calculation of SDG impacts			
Assessment of reported sustainable development co-benefits			
Comparison of actual SDG Impacts with estimates in approved PDD			
Local stakeholder consultation & Grievance Mechanism	CL#03		
Others- Samples Consistency		CAR#05	
Total	03	05	00

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	The Monitoring Report/8/ has been prepared using the latest and applicable GS4GG Monitoring Report Template V1.1. Template found on Gold Standard website. https://globalgoals.goldstandard.org/t-perfcert-monitoring-report/ The contents of the Monitoring Report are also completed in accordance with the Monitoring Report TEMPLATE GUIDE v. 1.1/8/.
Findings	CL#01 was raised and successfully closed.
Conclusion	The MR is found to comply with the latest and applicable form. All the sections filled are in line to the form filling guidelines/8/.

E.2. Remaining forward action requests from validation and/or previous verifications

There was no forward action request issued from the previous verification report Version 1.0, dated 10/07/2023/10/. Similarly, the previous Performance review for 5th MP/11/ Round raised no FARs.

E.3. Compliance of the project implementation with the registered project design document confirm.

Means of verification	The registered GS project activity (GS 879) "Energy Efficient Cook Stoves for Siaya Communities, Kenya" involves promotion and construction of rocket-type energy-efficient biomass stoves. The promotion and dissemination of the Improved Cookstoves (ICS) under the project activity is aimed at reducing GHG emissions generated from burning non- renewable woody biomass for cooking purposes on conventional cookstoves. The project ICS stove can be described as, energy efficient due to improved combustion and heat transfer efficiency which helps to reduce fuel consumption compared to conventional baseline stoves; as a result, indoor air pollutants caused by incomplete combustion are significantly reduced. This is confirmed by user surveys and VVB interviews with end-users, which indicated noticeable improvements in fuel efficiency and reductions in smoke and related health issues. The stove's features, such as the combustion chamber, air inlet, and thick insulation walls, were observed during the remote audit virtual kitchen tours/33/, confirming the improved technology compared to baseline open fires. The stoves are also cost-effective and of high quality as they are constructed using locally available materials by well-trained and qualified artisans as described in the construction protocol in the registered PDD/1/. The number of wood improved cookstoves disseminated/constructed under the PA has been confirmed from the distribution record database/4/ as shown below: <table data-bbox="526 1541 1315 1998"> <tr> <th>Year</th><th>Number of stoves</th></tr> <tr> <td>2011</td><td>4,662</td></tr> <tr> <td>2012</td><td>5,139</td></tr> <tr> <td>2013</td><td>5,187</td></tr> <tr> <td>2014</td><td>6,840</td></tr> <tr> <td>2015</td><td>14,186</td></tr> <tr> <td>2016</td><td>7,819</td></tr> <tr> <td>2017</td><td>8,360</td></tr> <tr> <td>2018</td><td>7,885</td></tr> </table>	Year	Number of stoves	2011	4,662	2012	5,139	2013	5,187	2014	6,840	2015	14,186	2016	7,819	2017	8,360	2018	7,885
Year	Number of stoves																		
2011	4,662																		
2012	5,139																		
2013	5,187																		
2014	6,840																		
2015	14,186																		
2016	7,819																		
2017	8,360																		
2018	7,885																		

2019	7,758
2020	6,586
2021	9,315
2022	39,887
2023	6,024
Total	129,648

The average lifespan of the various cookstoves disseminated under the PA is fixed 14 years. This period is confirmed from the design change approved during the 4th MP Performance Review Round 2023/11/. As confirmed from the ER calculation Spreadsheet/4/, all stoves considered for emission reductions for this monitoring period are within the lifespan mentioned in the PDD/1/. The VVB also notes that the total number of stoves verified in the previous verification for the year 2022 was 26,562, which is less than the actual number of stoves in the database for that year. The stoves claimed were accounted for up to 23/08/2022 and not 31/12/2022, hence the increased number in the tables above compared to the previous MP. The verification team has confirmed that the correct total number of stoves in the database is 129,648 which includes 13,325 stoves not accounted for in year 2022.

The verification team has performed detailed remote audit observations, interviews with Project participants representatives and a review of project documents and technology distribution records/4/ provided by the PD. Based on the assessment it can be confirmed that.

- The Project developer has not changed and is the same as that which is mentioned in the revised registered PDD/1/ for this CP 2. This is confirmed from the Project Page on GS website, project documentation and interviews with PP representatives.
- The PA is implemented within the boundary of the project as described in the revised and registered CP 2 PDD/1/. The GPS coordinates provided in the database have been confirmed to be correct, and project is implemented in Siaya , Kenya.
- The PA is being implemented and operated in accordance with the description contained in the revised and registered CP 2 PDD/1/. This is confirmed from review of the registered PDD/1/ against the presented MR for this 6th MP.
- All physical features and information (including data and project variables) of the PA mentioned in the MR/3/ is found to be in line with the revised accepted

	PDD/1/. This was confirmed by cross-checking information in the PDD against the MR. - The applicable regulatory documents for the PA have been evaluated, including changes to the PDD/1/ on stoves lifespan which have been approved by Gold Standard/11/. The verification team found that the project description presented in the Monitoring Report is complete, accurate, and consistent with the information provided in the revised and accepted CP 2 PDD/1/. Grievance Mechanism: The PD has incorporated a continuous grievance mechanism system, which works as a feedback mechanism for the project activity from different stakeholders. The various means set up by the PD through which stakeholders can use conveniently include: 1. Directly registering complaints at the Tembea Youth Centre for Sustainable Development office in Siaya County where a grievances expression book is maintained. 2. Telephone number on which the end users can share their complaints. 3. Additionally, the end users can use the community savings and loan groups as a communication channel with the organization to air any concerns about the project activity. The verification team has confirmed the presence of the grievance expression book for this monitoring period, and snapshots of the logbook have been provided by the PD/12/. All concerns noted in the grievance logbook for this period have been satisfactorily addressed and documented in MR v1.1/3/ section G.1. VVB-end user interviews revealed that end users are well-informed about the channels for reporting and addressing their concerns, as demonstrated in the VVB Field survey questionnaire (end users' feedback)/33/. Therefore, the verification team concludes that the established and implemented grievance mechanisms effectively ensure that all concerns from end users are recorded and addressed.
Findings	CAR#01 was raised and successfully closed.
Conclusion	Following the documents review and a follow up with site audit interviews, the verification team can confirm that all physical features (technology, project equipment (as applicable) of the registered GS PA were in place and that the PD has implemented the project activity as per the registered PDD/1/ during the current (6th) monitoring period.

E.3.1. Implementation and operation of the management System

Means of verification	PD representatives and monitoring team were interviewed by the assessment team during the remote audit/33/ to check if the PA has appropriate management and operational system for implementation, and whether the monitoring reporting functions are in place. It was confirmed that the PD has a detailed implementation structure and has put in place an elaborate monitoring and reporting system to ensure that the data collected, reported, and archived is credible and reliable. PD has also detailed the operational system followed during the 6th MP in section C of the monitoring report, which is found to be consistent with the revised and registered PDD Version 3.2.6/1/, and details provided from the interviews. The implementation procedures, and operation for the management system were also cross-checked with the end-users during the audit interviews and inspection. It has been confirmed that as part of monitoring procedures the PA ensures that during construction of cookstoves Unique IDs are inscribed on the stove to mitigate double counting. The lead artisans' forms/26/ have been cross-checked and found to contain the stoves unique IDs. Additionally, all audited sample households have been checked against the unique IDs cited during the audit interviews by end users and found to match IDs in the provided PFTs and US spreadsheets/17,32/. A follow up monitoring activity is also carried out to ensure the stoves are operational, and unique IDs are intact. During the audit the tags were identified and confirmed to be intactly placed in the ample kitchens/walls/stoves. This was found to be consistent with the PDD/1/. The distribution database/4/ also depicts the uniqueness of every cookstove's identity through the unique IDs and GPS tags. The number of cookstoves constructed under the GS PA is recorded, quality- checked, and compiled for storage in both physical and electronic forms (hard and soft copies). The PD, as demonstrated by providing a link
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	to the drive storage of data, also uses cloud storage as a back-up system and file cabinets in the PD's filed office/30/. The Project database administrator is responsible for updating and maintaining the electronic database. During the construction of the cookstoves the following is recorded by the PA project staff: Date of construction Name of beneficiary Beneficiary contact (as available) Location of Household (GPS coordinates) Unique Stove ID Quantity of cookstoves constructed as evidenced in artisan records provided/26/. Furthermore, the Sales Record/4/ has been checked against the compiled monitoring information to ensure compliance with the project monitoring plan. Training of field staff/23/, artisans' attendance lists/24/, and training manuals/13/ submitted by the PD also confirm that appropriate training was provided to staff on construction, and monitoring surveys and data entry. The verification team learned through interviews with PD representatives and the monitoring team /33/ that annual surveys are conducted by well-trained monitoring staff. Under the close supervision of the data manager, inspections are performed at each implementation stage to ensure adherence to QA/QC procedures for monitoring, data collection, storage, and archiving. The PD has demonstrated its data verification process from the construction stage to data quality checking by providing a series of forms completed at each stage. The verification team also confirms this from the verification checklists/41/ purposed to verify that correct and accurate data is collected during the field surveys.
Findings	No Findings raised
Conclusion	Based on the assessment, the verification team confirms that proper management systems are in place to implement the monitoring of the PA, consistent with the registered PDD/1/. The PA has identified and established highly structured project staff roles and responsibilities, as well as procedures for data collection, transfer,

	aggregation, and data storage and archiving for the monitoring system. These details are provided in Section C of the MR/3/ and duly confirmed to be appropriately documented.
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E.3.2. Post-registration changes

Not Applicable

E.3.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

Not Applicable

E.3.2.2. Corrections

Not Applicable

E.3.2.3. Changes to the start-date of the crediting period

Not Applicable

E.3.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

Not Applicable

E.3.2.5. Changes to project design of approved project

The project underwent a design change in 2023 to fix the stove age limit at 14 years. The design change was approved and is confirmed by the revised registered PDD version 3.2.6/1/ and GS879_Performance Review_IV round_FINAL_13022023-4th MP/11/.

E.3.3. Compliance of the registered monitoring plan with applied methodologies and

standardized baselines

Means of verification	The monitoring plan followed in the 6th monitoring period, as described in the monitoring report/3/ was found to be consistent with the PDD/1/ and the monitoring requirements of the GS4GG methodology, Technologies, and Practices to Displace Decentralized Thermal Energy Consumption, Version 2.0/2/, considering the relevant technology. The monitoring plan also covers all necessary parameters, monitoring frequencies, QA/QC procedures for monitoring the project activity design and description, enabling accurate determination of emission reductions. This was confirmed by reviewing all the above-mentioned documents. Additionally, the Project surveys results/17,32/, dates when they were conducted confirmed that the monitoring frequencies are followed as per the registered PDD/1/. Furthermore, during the audit end users confirmed that PP officers visited the households for the monitoring activities. The validation team also confirmed from the survey sheets/19/ that all parameters needed for calculation of ERs were accurately captured. It was also noted that no standardized baseline was utilized, and this is consistent with the information provided in the registered/revised PDD/1/.
Findings	CL#02 and CAR#04 raised and successfully closed.
Conclusion	Verification team confirms that the monitoring plan in the MR/3/ complies to the registered PDD/1/ and applied methodology, Technologies, and Practices to Displace Decentralized Thermal Energy Consumption, Version 2.0/2/.

E.3.4. Compliance of monitoring activities with the registered monitoring plan

E.3.4.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of	The ex-ante parameters are provided in the table below:
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verification	Relevant SDG Indicator	Parameter	Value of the ex- ante parameter	Assessment
	13: Climate Action	P _{b,y} Quantity of woody biomass consumed in the baseline scenario in year y and per day in year y.	2.7375 t/stove/year and 0.0075 t/stove/day	The value is sourced from Baseline KPT of 2017/18/. The parameter, as mentioned in registered PDD/1/ is fixed ex- ante and will be applied the entire crediting period (CP-2). Hence, listing the parameter under "Data and parameters fixed ex ante or at renewal of crediting period" was accepted by Sustain Cert during Performance Review of the previous verification (4 th MP/11)/. The parameter value is consistently recorded in the MR/3/ and PDD/1/ and is also correctly applied in the calculation of ERs in ER calculation sheet/4/.
	13: Climate Action	EF _{b,CO2} CO2 emission factor arising from use of fuel in baseline scenario	1.7472 tCO ₂ /t wood (=112.0 tCO ₂ /TJ * 0.0156 TJ/ t)	The value of this parameter is sourced from 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Tables 1.2/2.5 Volume 2/14/. And default IPCC EF and NCV values of wood/wood waste are applied in the calculation. This was confirmed by cross checking the values provided with that provided by the IPCC/14/. The value is consistently recorded in the PDD/1/, MR/3/, and correctly applied in the calculation of ERs in the calculation sheet/4/.

	13: Climate Action	EF _{b,non-CO2} Non-CO2 emission factor arising from use of wood-fuel in project scenario	0.1476 tCO ₂ eq/t wood	The value of this parameter is used as per https://globalgoals.goldstandard.org/ru-2020-applicability-of-global-warming-potential-for-gold-standard-for-the-global-goals-projects/15/ The values applied have been checked and found to be consistent in both the registered PDD/1/, MR/3/ and ER Calculation sheet/4/. Furthermore, VVB has verified that the value used represents wood fuel, which is the primary source of fuel used in the baseline scenario. This confirmation is derived from baseline reports and audit interviews/33/.
	13: Climate Action	EF _{p,CO2}	1.7472 tCO ₂ /t wood (=112.0 tCO ₂ /TJ * 0.0156 TJ/ t)	The value of this parameter is sourced from 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Tables 1.2/2.5 Volume 2/14/. And default IPCC EF and NCV values of wood/wood waste are applied in the calculation. This is was confirmed by cross checking the values provided with that provided by the IPCC/14/. The value is consistently recorded in the PDD/1/, MR/3/, and correctly applied in the calculation of ERs in ER calculation sheet/4/.

	13: Climate Action	EF _{p,non-CO2} Non-CO2 emission factor arising from use of wood-fuel in project scenario	0.1476 tCO ₂ eq/t wood	The value of this parameter is used as per https://globalgoals.goldstandard.org/ru-2020-applicability-of-global-warming-potential-for-gold-standard-for-the-global-goals-projects/15 The parameter is recorded as per the registered PDD/1/. The values were checked and confirmed to be consistent in both the MR/3/ and ER calculation sheet/4/. Furthermore, VVB has verified that the value used represents wood fuel, which is the primary source of fuel used in the project scenario. This confirmation is derived from Usage Survey reports and audit interviews/33/.
		f _{NRB,i,y}	92%	The value is sourced from http://cdm.unfccc.int/DNA/fNRB/index.html. and is used as a default value through the Crediting Period 2. VVB has verified that the value is consistent with the registered PDD/.1/ and is correctly applied in calculation of ERs in the ER Calculation Sheet/4/.
Findings	No Findings Raised.			
Conclusion	The verification team confirms that the description, values, and application of the parameters is correct. The values mentioned in the MR/3/, and ER/4/ are consistent and in line with the registered PDD/1/ and the applied methodology/2/. The values are also accurately applied in calculation of ERs in			

	the ER sheet/4/.
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E.3.4.2. Data and parameters monitored (Carbon & SDG)

Time (hours) and money (KES) saved per household per year due to fuel savings achieved by project stoves(Time and monetary savings)

Relevant Indicator	SDG	SDG 1: No Poverty	
Means of verification		Criteria/Requirements	VVB Assessment
		Measuring /Reading /Recording frequency	Annual
		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PDD/1/.
		How were the values in the monitoring report verified?	The comparison between the Baseline fuel expenditure estimations (of KES 12,906 on fuel per year and 404 hours used in fuel gathering per year) and the project scenario estimation (KES 4342 on fuel and 212 hours for fuel collection) shows that the expenses of wood fuel since inception of the ICS has reduced. Therefore, there are savings on annual monetary expenses as well as time used to collect the fuel as follows: Fuel Expenditure Savings: 66.37% Fuel Collection Time Savings: 47.52% The number of hours saved in the project scenario is 192 hours per household while the money saved amounts to KES 8564 per

		household per annum. The information is well captured in the monitoring survey questionnaire/19/ and analyzed in the 2023 Monitoring Usage survey results sheet/32/. Further, VVB included questions in the remote audit field survey form/33/ for the 13 sampled MUS households, to probe the veracity of the MUS results. VVB confirms from the interview responses that there are time savings due to the lesser use of wood and reduced cooking time compared to the baseline. Additionally, all respondents indicated that using the ICS has saved them money, with the majority observing savings of approximately 50%. Therefore, as per VVB's calculation of savings reported by PP being Fuel Expenditure Savings: 66.37%, and Fuel Collection Time Savings: 47.52%, the interviews confirmed PD's values to be correct.
	If applicable, has the reported data been cross checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	QA/QC procedures are in place. The data has been consistently recorded across documents reviewed(see above) and applied correctly in reporting of Impacts
Findings	No Findings Raised	

Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/. The value is also reported in all relevant documents accurately and consistently/3,4/.
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Proportion (%) of positive comments from stove users on air quality improvement with project stove, Percentage (Air quality improvement)

Relevant Indicator	SDG	SDG 3: Good Health & Well Being	
Means of verification	of	Criteria/Requirements	VVB Assessment
		Measuring /Reading /Recording frequency	Annually
		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency in line to the PDD /1/.
		How were the values in the monitoring report verified?	The verified value of the parameter is 100% The parameter was determined through the Monitoring Usage Survey and by analyzing responses from end users about their observations of smoke reduction while using the project technology. A simple random sampling method was applied by the Project Developer for the

		selection of monitoring samples across all stove age groups. A total of 594 households were sampled for the Monitoring Usage Survey from all stove age groups, ensuring that the minimum requirement of at least 30 samples per age group, as specified by the monitoring methodology/2/, was met. The response rate from the usage survey is derived by dividing the number of positive responses on air improvement from stove user by the total number of end users interviewed. The verification team applied acceptance sampling and interviewed 26 user samples across all age groups from the usage survey conducted in 2023. All the end-users confirmed that since the adoption of the ICS there is notable improvement in the air quality in their kitchens. From VVBs observation, the walls of the kitchen also appeared to have less soot on them, and this can be seen in the audit photos/30/.
	If applicable, has the reported data been cross checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	QA/QC procedures are in place. The data has been consistently recorded across documents reviewed(see above) and applied correctly in reporting of Impacts. The monitoring Methods/procedures were also found to be in-line with the monitoring plan of PDD/1/.
Findings	No Findings Raised	

Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.
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Number of persons reached with awareness creation (Awareness creation in the community)

Relevant SDG Indicator	SDG 4: Quality Education	
Means of verification	Criteria/Requirements	VVB Assessment
	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PDD/1/.
	How were the values in the monitoring report verified?	VVB reviewed the awareness creation attendance sheets/22/, and education programs photographic evidence/22/. Further, the VVB field survey interview comprised of a question to gather information on the existence of awareness creation forums in the communities. It is confirmed that the PA conducts community awareness creation meetings, in households, community groups and schools. A total of 2364 persons have attended the education forums participants as confirmed from the awareness creation datasheet/22/.

	If applicable, has the reported data been crosschecked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	QA/QC procedures are in place. The data has been consistently recorded across documents reviewed(see above) and applied correctly in reporting of Impacts. The monitoring Methods/procedures were also found to be in-line with the monitoring plan of PDD/1/.
Findings	No Findings Raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Number of jobs offered by TYCSD to local female employees (Number of female employees)

Relevant Indicator	SDG	SDG 5: Gender Equality	
Means of verification		Criteria/Requirements	VVB Assessment
		Measuring /Reading /Recording frequency	Annual
		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PDD/1/.

	How were the values in the monitoring report verified?	The employee records/27/ show that both genders were considered in employment. Out of a total of 236 employees, the PA employed 109 females, which is 46%, exceeding the 30% target or minimum threshold described under the parameter in the monitoring report/3/. The VVB also interacted with some of the female and male employees during the audit process as recorded in the audit recordings/33/. Further, the verification team has crosschecked the MUS and PFT survey forms/32/, /17/, and confirmed that both genders have taken part in the monitoring, an indication that females are involved in the implementation of the project.
	If applicable, has the reported data been crosschecked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	QA/QC procedures are in place. The data has been consistently recorded across documents reviewed(see above) and applied correctly in reporting of Impacts. The monitoring Methods/procedures were also found to be in-line with the monitoring plan of PDD/1/.
Findings	No findings raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Number of persons that benefit from efficient and clean cooking technologies, Number.

Relevant Indicator	SDG	SDG7: Affordable and Clean Energy
Means of verification		Criteria/Requirements
		VVB Assessment
		Measuring /Reading /Recording frequency
		Annually
		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)
		Yes, the frequency is in line to the PDD/1/.
		How were the values in the monitoring report verified?
		The calculation method of this SDG is the sum of the project ICS installed during the monitoring period, multiplied by the usage rate, and average household size. The total number of installed stoves during the current monitoring period is 6,024 as confirmed from the distribution/sales database/4/. Therefore, considering the usage rate of 88.07% for 2023, and the average persons in a household being 5.3(sourced from 2023 MUS/32/), the number of persons benefiting from the with efficient cookstoves is 28,064. VVB cross-checked the 2023 monitoring Usage Survey/32/, the distribution database, the ER Calculations Spreadsheet /4/, and found the information consistently presented and calculation correctly done. The value is consistently reported in the MR/3/. Since this is an impact parameter—highlighting the aggregate effect of the project activity on the society or community(ies) within the project boundary—the total number of improved cookstoves disseminated was also checked and found to appropriately reflect the project’s impact in this monitoring period and previous

		monitoring periods.
	If applicable, has the reported data been crosschecked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	QA/QC procedures are in place. The data has been consistently recorded across documents reviewed(see above) and applied correctly in reporting of Impacts. The monitoring Methods/procedures were also found to be in-line with the monitoring plan of PDD/1/.
Findings	No findings raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Number of jobs offered by TYSCD to local employees at good conditions (Number of jobs offered)

Relevant SDG Indicator	SDG 8: Decent work and economic growth	
Means of verification	Criteria/Requirements	VVB Assessment
	Measuring/Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring	Yes, the frequency is in line to the PDD/1/.

	methodology? (Yes / No)	
	How were the values in the monitoring report verified?	The MR/3/ was reviewed against the ER Spreadsheet "SDG 8 Impact Calculations/4/ and the List of Project Staff, employed artisans records and community mobilizers records/27/ The number of employees earning from the PA tallies with those reported in the MR/3/. The total number of jobs offered, for both temporary and permanent terms, sums up to 236 during the 6th monitoring period (MP) and are broken down as follows: • 15 PA staff • 83 artisans • 138 community mobilizers The numbers are consistent across all provided documents mentioned above. Based on the audit interviews conducted, it was further confirmed that the categories mentioned above—PA staff, artisans, and community mobilizers—were indeed part of the implementers of the PA during the 6th MP. The verification team found that these categories align with the PA's claims regarding its contributions to SDG 8, particularly in offering job opportunities to local communities.
	If applicable, has the reported data been crosschecked with other available data?	N/A

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	QA/QC procedures were in place. The data has been consistently recorded across documents reviewed(see above) and applied correctly in reporting of Impacts. The monitoring Methods/procedures were also found to be in-line with the monitoring plan of PDD/1/.
Findings	No Findings Raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Fuel savings in % achieved by project technologies compared to baseline. (Fuel savings achieved)

Relevant SDG Indicator	SDG 12: Sustainable consumption and production	
Mean of Verification	Criteria/Requirements	VVB Assessment
	Measuring /Reading /Recording frequency	Ever Two Years
	accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PDD/1/.
	How were the values in the monitoring report verified?	To ensure the accuracy of the SDG presentation, the calculations presented in the ER Calculation Spreadsheet/4/ and PFT of 2023 results/17/ from 79 surveyed households were reviewed, and re-calculations were performed. Additionally, studies on fuel consumption in both the baseline and project scenarios were evaluated as follows;

	An average fuel consumption savings is 54.0% and is derived from comparing the baseline fuel consumption (BFT 2017/16/) of 0.0075 per stove per day against the project scenario consumption (PFT 2023/17/) of 0.0034 per stove per day. This percentage is calculated by dividing the difference between the two study results ($0.0075 - 0.0034 = 0.0041$) by the baseline consumption (0.0075), and then expressing the result as a percentage, resulting in 54.0%. The verification team also inspected the monitoring equipment/35/ used to measure fuel consumption in the field performance test. The weighing scales were found to meet the required measurement standards/36/. PD also provided training materials used to train enumerators and the training was found to incorporate necessary knowledge to conduct the PFT seamlessly. The verification team interviewed 13 households from the PFT study of 2023/17/, and their responses indicated that the use of the ICS led to fuel savings compared to the baseline/33/. Therefore, the PFT results were considered credible.
If applicable, has the reported data been crosschecked with other available data?	N/A

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	QA/QC procedures were in place. The data has been consistently recorded across documents reviewed(see above) and applied correctly in reporting of Impacts. The monitoring Methods/procedures were also found to be in-line with the monitoring plan of PDD/1/.
Findings	No findings raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Amount of CO2e reduced by the project per year (CO2e emissions reductions)

Relevant Indicator	SDG	SDG 13: Climate action	
Means of verification		Criteria/Requirements	VVB Assessment
		Measuring /Reading /Recording frequency	Annually
		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PDD/1/.

	How were the values in the monitoring report verified?	Information provided in the MR/3/ was reviewed against information presented in the ER Calculation Spreadsheet/4/. The parameter values used to calculate Emission reductions were also evaluated, and re-calculation performed. The formulae used to calculate ERs was also reviewed against the PDD/1/ and applied methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) version 2.0/2/. VVB confirms that the quantification of amount of CO₂e reduced by the project per year is correctly calculated and the formulae is appropriately applied. The total emission CO₂e reduced by the project per year for the 6th monitoring period is 289,372 tCO₂e.
	If applicable, has the reported data been crosschecked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	QA/QC procedures were in place. All documents relevant for calculation and reporting of Emission reduction values, are correctly analyzed, consistently recorded and reported.
Findings	No Findings Raised	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/. The values achieved are also confirmed to result from prescribed formulae methods in the applied methodology/2/.	

Quantity of woody biomass consumed in the project scenario during year y and per day in year y (Pp,y)

Relevant SDG Indicator	SDG13: Climate Action	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring frequency	Every 2 years
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the applied methodology/2/ and registered PDD/1/.
	How were the values in the monitoring report verified?	The value of the parameter for the current monitoring period reported in the MR/3/ is 1.2582 tonnes/capita/year and 0.0034 wood/day. This is confirmed from the PFT analysis of the 2023 PFT conducted in a sample of 79 household sampled from stoves of all ages in multiple villages of Siaya County. The verification team has also confirmed that the stoves are indeed selected from stoves of all ages (13) from the distribution database/4/. Additionally, VVB has randomly selected 13 households from PDs sample of 79 surveyed households for audit and confirmed from the end users that the households were party to the PFT study. The PFT was conducted for 5 consecutive days. This is verified from Project PFT survey results/17/ and PFT 2023 Enumerators_ Training Report/17/. The project fuel consumption is average

		wood consumption, weighted for each household over 5 days in the project scenario. The value achieved has been correctly applied in the calculation of ERs as verified from the ER sheet/4/ and was found to be in-line with the monitoring plan of registered PDD/1/.
	If applicable, has the reported data been crosschecked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The data management system was found to be detailed, well-structured, appropriate, and reliable. The QA/QC processes have been executed correctly as per the PDD /1/ and the same is correctly reported in the MR/3/.
Findings	CAR#02 (point 3) & CAR#05 finding raised and successfully closed.	
Conclusion	The parameter is appropriately monitored, recorded, reported, and applied in the calculation of emission reductions/4/ as required by the applied methodology/2/. The processes undertaken to check data quality are appropriate and capable of ensuring reliable and credible data is used in the calculation of ERs/4/.	

Quantity of woody biomass consumed in the project scenario in year y and per day in year y ($P_{p,b,y}$)

Relevant SDG Indicator	SDG13: Climate Action	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring frequency	Every 2 years

	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the applied methodology/2/ and registered PDD/1/.
	How were the values in the monitoring report verified?	The value of the parameter for the current monitoring period reported in the MR/3/ is 1.2582 tonnes/capita/year and 0.0034 wood/day. This is confirmed from the PFT analysis of the 2023 PFT conducted in a sample of 79 household sampled from stoves of all ages in multiple villages of Siaya County. The verification team has also confirmed that the stoves are indeed selected from stoves of all ages (13) from the distribution database/4/. Additionally, VVB has randomly selected 13 households from PD's sample of 79 surveyed households for audit and confirmed from the end users that the households were party to the PFT study. The PFT was conducted for 5 consecutive days. This is verified from Project PFT survey results/17/ and PFT 2023 Enumerators_ Training Report/17/. The project fuel consumption is average wood consumption, weighted for each household over 5 days in the project scenario. The value achieved has been correctly applied in the calculation of ERs as verified from the ER sheet/4/ and was found to be in-line with the monitoring plan of registered PDD/1/.

	If applicable, has the reported data been crosschecked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The data management system was found to be detailed, well-structured, appropriate, and reliable. The QA/QC processes have been executed correctly as per the PDD /1/ and the same is correctly reported in the MR/3/.
Findings		
Conclusion	The parameter is appropriately monitored, recorded, reported, and applied in the calculation of emission reductions/4/ as required by the applied methodology/2/. The processes undertaken to check data quality are appropriate and capable of ensuring reliable and credible data is used in the calculation of ERs/4/.	

Usage rate in project scenario during year y % (Up,y)

Relevant SDG Indicator	SDG13: Climate Action	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the applied methodology/2/ and registered PDD/1/
	How were the values in the monitoring report	The monitoring report values were verified through random sampling, ensuring all stove age groups

	verified?	were represented. A total of 594 stoves, with a minimum sample of 30 samples from each stoves age group was taken for study as required by the applied methodology/2/, and the usage parameter was weighted accordingly. The assessment team reviewed the 2023 Monitoring Usage Survey forms/32/ and confirmed that percentages usage rates for each age group was accurate by reproducing the calculations presented in the analysis spreadsheet/32/ and consequently the ER sheet/4/. During the audit, randomly selected 18 households were interviewed, verifying that they were visited by the PD's monitoring team. The survey results were consistent with field data and confirming the definitions of use and no-use in the analysis as per Usage rate guidelines. The usage rate for the current period was accurately reported at 88.07%, in line with the monitoring plan/1/. Usage Rates (=1-drop-off rate) <table><tr><th>Age Group</th><th>Usage Rate (%)</th></tr><tr><td>Age 0-1</td><td>80.6</td></tr><tr><td>Age 1-2</td><td>84.5</td></tr><tr><td>Age 2-3</td><td>91.3</td></tr><tr><td>Age 3-4</td><td>77.5</td></tr><tr><td>Age 4-5</td><td>85.3</td></tr><tr><td>Age 5-6</td><td>89.5</td></tr><tr><td>Age 6-7</td><td>92.3</td></tr><tr><td>Age 7-8</td><td>94.6</td></tr><tr><td>Age 8-9</td><td>92.7</td></tr><tr><td>Age 9-10</td><td>86.8</td></tr><tr><td>Age 10-11</td><td>100.0</td></tr><tr><td>Age 11-12</td><td>100.0</td></tr><tr><td>Age 12-13</td><td>100.0</td></tr><tr><td>Weighted Average</td><td>88.07%</td></tr></table>	Age Group	Usage Rate (%)	Age 0-1	80.6	Age 1-2	84.5	Age 2-3	91.3	Age 3-4	77.5	Age 4-5	85.3	Age 5-6	89.5	Age 6-7	92.3	Age 7-8	94.6	Age 8-9	92.7	Age 9-10	86.8	Age 10-11	100.0	Age 11-12	100.0	Age 12-13	100.0	Weighted Average	88.07%
Age Group	Usage Rate (%)																															
Age 0-1	80.6																															
Age 1-2	84.5																															
Age 2-3	91.3																															
Age 3-4	77.5																															
Age 4-5	85.3																															
Age 5-6	89.5																															
Age 6-7	92.3																															
Age 7-8	94.6																															
Age 8-9	92.7																															
Age 9-10	86.8																															
Age 10-11	100.0																															
Age 11-12	100.0																															
Age 12-13	100.0																															
Weighted Average	88.07%																															

		Applied Rate -	88.07%
		This table above depicts the usage rates for each stove age group and the calculated weighted average usage rate. Notably, although some age groups reported above 90% usage rate, the claimable rate for the PA as per the MR is 90%. Hence, the usage rate has been capped at 90%. The rate applied during this MP for calculation of ERs is 88.07%. The values for usage rate of the project device distributed under the PA have been correctly reported in the monitoring report/3/ and ER sheet/4/. The monitoring methods were also found in-line with the monitoring plan of revised accepted PDD/1/. Also, the "Requirements and Guidelines Usage Rate Monitoring", version 02/34/ have been considered and implemented accordingly. All requirements for evaluation of compliance of usage rates guidelines such as definition of non-use, verification checks have been confirmed from the MR/3/, the usage survey results/32/, and verification checklists/41/.	
	If applicable, has the reported data been cross-checked with other available data?	N/A	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The data management system is in place and the QA/QC processes is elaborate and carried out as stipulated in the PDD/1/ and VVB found it to be appropriate and reliable.	

Findings	CAR#02(point 2) was raised and successfully closed.
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied), applied methodology/2/ and Requirements and Guidelines Usage Rate Monitoring version 2.0/34/. The monitoring results are consistent with the approved in the monitoring plan/1/.

Technologies in the project database for project scenario p through year y, $N_{p,y}$, Project technologies credited (units)

Relevant SDG Indicator	SDG13: Climate Action	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PDD/1/

	How were the values in the monitoring report verified?	The verified $N_{p,y}$ values applied for this monitoring period is 46,193,199 days The value of the parameter is the cumulative number of technology days for all ICS deployed and in use under the PA, including the current monitoring period. The PD maintains a continuous electronic record/Project database for the number of stoves distributed as demonstrated in the Sales database/4/. During the distribution, following is recorded: a) Unique identification (Stove Serial Number) b) Address and telephone (as available) c) Date of ICS construction d) Quantity of project technology distributed which matches the Lead artisan's stove installation forms/26/ and sales invoices/31/. The values were verified from the distribution database/4/ and it was also confirmed that emission reductions were only derived from days the ICS has been in use. PD demonstrated in the database/4/ that the 21 days' period between date of sale and start of stove usage for households is excluded in the emission reduction calculations. VVB also checked the implementation correctness, and consistency of it with the end-users during the audit. The verification team also confirms that the constructed ICS are labeled/inscribed with Unique IDs to ensure that double counting is avoided, which was found consistent with the information in the distribution database /4/. The ER sheet/4/ was reviewed, ensuring that the correct values were applied in calculating ERs for this 6th MP.
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	If applicable, has the reported data been cross-checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The data management system was found to be detailed, well-structured, appropriate, and reliable. The QA/QC processes have been executed correctly as per the PDD /1/ and the same is correctly reported in the MR/3/.
Findings	No findings Raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Leakage in project scenario p during year y, $LE_{p,y}$, tCO₂e per year

Relevant SDG Indicator	SDG13: Climate Action	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Every two years
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PDD/1/.

	How were the values in the monitoring report verified?	The value applied this monitoring period is 0. During the 2017 re-validation as confirmed from the PDD/1/, the PD conducted a leakage assessment, concluding that the leakages were insignificant. VVB found the assessment consistent with the monitoring methodology provided in the applied methodology/2/. Moreover, the 2023 Monitoring/Usage Survey results demonstrate that no leakage was observed throughout the monitoring period. verification team has cross-validated this information with the 2023 MUS results /32/ and confirmed that the accurate values are applied in the ER calculations/4/.
	If applicable, has the reported data been cross-checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The data management system was found to be detailed, well-structured, appropriate, and reliable. The QA/QC processes have been executed correctly as per the PDD /1/ and the same is correctly reported in the MR/3/.
Findings	No Findings raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Similar new project activity in the project area

Data/Parameter			Similar new project activity in the project area
Means	of	Criteria/Requirements	VVB Assessment

verification	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the PDD/1/.
	How were the values in the monitoring report verified?	The verification team has examined the statements in the MR/3/ alongside the PDD/1/ and has confirmed that the established procedure/method for monitoring the parameter remains consistent. Additionally, the team has conducted an independent review of external sources to verify the absence of overlapping projects within the project boundary as claimed by the PA. There are no similar projects found in the region, therefore the claims in the MR/3/ are correct.
	If applicable, has the reported data been crosschecked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The data management system was found to be detailed, well-structured, appropriate, and reliable. The QA/QC processes have been executed correctly as per the PDD /1/ and the same is correctly reported in the MR/3/.
Findings	No Findings Raised	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/2/. The monitoring results were recorded consistently as per the approved frequency in the	

	monitoring plan/1/.
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E.3.5. Implementation of sampling plan

Means of verification	The PD has applied the sampling plan prescribed in the “Technologies and Practices to Displace Decentralized Thermal Energy Consumption”, version 2.0/2/ and also followed the registered sampling plan/1/. Target Population: The target population, sourced from the project database/4/, includes all households utilizing ICS under the Project activity. This database, containing data from 13 different age groups, serves as the sampling frame for selecting survey samples. It is confirmed that the PD has used this sampling frame to select samples for the MUS and PFT. The verification team has crosschecked from the project database/4/ that all monitored households/16,17/ are from the sampling frame, with each age group represented. This was further verified during audit interviews with the end users. Parameters covered through monitoring surveys: The Performance Field Tests and Usage survey have been conducted to monitor the following Parameters- Up, y (SDG 13)- Stove usage Rate Pp, y (SDG 13)-Quantity of wood biomass consumed. SDG 3- Air Quality improvement SDG 1- Time & Money spent on fuel purchase. Other SDGs monitored during monitoring activity report include; SGD 4, SDG 5, SDG,7, SDG,8, SDG 12, SDG 13(Tech days and ERs calculation). All these SDGs and parameters have been comprehensively described in this report. Sample size calculation for different tests:
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Usage surveys:

The applied monitoring methodology in the “Technologies and Practices to Displace Decentralized Thermal Energy Consumption”, version 2.0/2/ prescribes that the minimum sample size for usage survey should be a 100, with at least 30 samples for project technologies of each age being credited. The usage survey conducted in 2023 involved a sample size of over 30 households per age group, with all the 13 stove age groups considered. A total of 594 households (across all age groups) were successfully surveyed in the usage survey conducted between 04/12/2023-15/01/2024. The monitoring requirement for this survey were found to be met.

Age Group	Successful Samples	Sampled Surveyed	Stoves per Year
0-1 yrs	36	40	4,662
1-2 yrs	103	105	5,139
2-3 yrs	46	48	5,187
3-4 yrs	40	40	6,840
4-5 yrs	34	35	14,186
5-6 yrs	38	40	7,819
6-7 yrs	53	55	8,360
7-8 yrs	35	38	7,885
8-9 yrs	42	45	7,758
9-10 yrs	53	55	6,586
10-11 yrs	32	35	9,315
11-12 yrs	38	40	39,887
12-13 yrs	44	45	6,024
	594	621	129,648

Project Performance Field Test (PFT):

As per the PDD/1/, “the PFT update is an extension of the project PFT and provides a fuel consumption assessment representative of project technologies currently in use every two years. Hence the PFT update shall account for changes in the project scenario over time as project

technologies age and new customers are added, also as new models and designs are introduced. It is legitimate to apply an Age Test instead of a PFT, to project technologies which remain materially the same year after year.”

The PD conducted a PFT in 2023/17/, adhering to the biennial monitoring frequency specified in the PDD/1/, to evaluate fuel consumption. The sampled households, totaling 79 were randomly selected from the database using an Excel function. The samples were found to be representative of all 13 stove age groups. This was verified by crosschecking the years of distribution and confirming the same dates/years from the end users during the audit.

Data collection and analysis:

The verification team applied acceptance sampling, reviewed the survey results and analysis, and found them to be accurately documented. Additionally, the filled survey forms/19/ were checked to confirm their consistency with the monitoring survey raw data in the Excel sheet /32/. The verification team also included questions for audit to confirm the information recorded in the surveys. It is confirmed that the data collected by PD team tallies with responses provided by end users to verification team and the analysis discrepancies are immaterial.

Reliability of test:

The verification team cross-checked the ER calculation spreadsheets /4/ with the Monitoring/Usage Survey Results and Analysis Sheet /32/. The collected data was found to be analyzed according to the guidelines outlined in “Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 2.0”/2/.

The monitoring and usage survey values are not subject to confidence/precision calculation as per the applied methodology. Therefore, with PFT being subject to confidence/precision, the verification team assessed the PFT values and found that they were reliably sampled,

	and the data was appropriately collected and analyzed. The samples and analysis met the 90/30 criteria.
Findings	CAR#03 and CAR #02(Point 1) raised and successfully closed.
Conclusion	The verification team confirms that the sampling plan and the parameter values are in accordance with the monitoring plan provided in PDD/1/ and the applied methodology/2/.

E.3.6. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	During the KPT survey, PD facilitated the training of enumerators on the calibration procedures for fuelwood weighing scales. This information is supported by the KPT training report conducted in 2023/17/. Furthermore, it has been verified that the weighing scales utilized conform to the standards prescribed by the Kenya Bureau of Standards/36/, thereby guaranteeing the accuracy and reliability of the measurements recorded during the survey.
Findings	No findings raised.
Conclusion	The Verification Team has confirmed that utilized properly calibrated and certified measurement equipment, subject to regular maintenance and thorough checks to ensure optimal functionality. As a result, the measurements obtained can be unequivocally deemed reliable, meeting stringent standards for accuracy and precision.

E.3.7. Assessment of data and calculation of emission reductions or net removals

E.3.7.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

Means of verification	a) SDG 1: No poverty The baseline value estimation, derived from the baseline survey of 2017/17/, is reported as 404 hours and 12,906 KES. These values were computed based on various factors, primarily the annual time used in fuel collection and monetary expenditures obtained from household interviews. These figures offer a comprehensive insight into the baseline conditions as they were derived from a representative sample of household interviews, therefore, their reliable and accurate. This is confirmed from the baseline survey conducted during the project revalidation of 2017/16/. b) SDG 3: Good health and well-being The project stove is distributed with the aim of reducing indoor air pollution. Consequently, without improved cooking stoves the kitchen conditions would likely remain unchanged, resulting in no (%) improvement in IAP levels. Through the audit process/interviews/33/, the verification team discovered that households using traditional three-stone stoves experienced significant smoke accumulation indoors and smoke related ailments, therefore ,confirming the baseline scenario. c) SDG 4: Quality education Without the implementation of the project, there would be no training forums therefore, zero persons and zero schools would be impacted with ICS/ PA education. The project reports ,training data/13,22/ and other photographic evidence clearly demonstrate the activities in the project scenario, which was absent in the baseline scenario. d) SDG 5: Gender equality The baseline value is 0 (zero) since without the project activity there will be no women receiving training or income from the project activity. The project reports and evidence demonstrate the impact on women which is absent during the baseline scenario/22,27/.
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e) SDG 7: Affordable and clean energy

The baseline value is 0 (zero) persons since the baseline stove is inefficient and there would be no benefit from efficient and clean cooking technologies without the project. The baseline scenario, as observed and confirmed by the verification team/33/ and further re-verified from the BFT 2017/16/, reveals that households predominantly relied on open traditional stoves. These stoves emit more smoke and consume greater amounts of fuel, leading to higher expenditures on fuel for households.

f) SDG 8: Decent work and economic growth

At baseline, the value of persons receiving an income from project activity and persons receiving an income more than what they were earning prior to project is Zero (0). It has been observed that since the inception of the project, numerous individuals have been employed to facilitate its implementation. This is substantiated by the project staff records./27/ This underscores the fact that without the project, such employment opportunities would not have been available.

g) SDG 12: Sustainable consumption and production

Quantity of woody biomass consumed in the baseline scenario in year and per day (0.0075 t wood/day/stove) were obtained using equation: This is substantiated from the baseline KPT study/18/. The equation applied was

$$B_{\text{fuel}} = \eta_{\text{project}} / \eta_{\text{baseline}} * P_{\text{fuel}}$$

Thermal efficiencies (η) from water boiling tests (Project technology) and default value for baseline were sourced from methodology page 23 footnote. A statistical mean was applied, considering that the project KPT/17/ was deemed to satisfy the 90/30 rule.

h) SDG-13: Climate Action

The equations used were found consistent with the PDD/1/ and the applied methodology, Technologies, and Practices to Displace Decentralized

Thermal Energy Consumption, version 2.0/2/.

The formula used for baseline estimation is as follows:

$$ER_y = \sum_{b,y} (N_{p,y} * U_{p,y} * P_{p,b,y} * NCV_{b,fuel} * (f_{NRB,b,y} * EF_{fuel,CO2} + EF_{fuel, nonCO2})) - LE_{p,y}$$

Where:

$\sum_{b,y}$ = sum over all relevant (baseline b/project p) couples

$N_{p,y}$ = cumulative number of project technology days included in the project database for project scenario p against the baseline scenario b in year y.

$U_{p,y}$ = cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)

$P_{p,b,y}$ = Specific fuel savings for an individual technology of project p against an individual technology of baseline b in year y, in tons/day, as derived from the statistical analysis of the data collected from field tests.

$NCV_{b,fuel}$ = Net calorific value of the fuel that is substituted or reduced ((IPCC default for wood fuel, 0.015 TJ/ton)

$f_{NRB,b,y}$ = fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass

$EF_{fuel, CO2}$ = CO₂ emission factor of the fuel that is substituted or reduced. 112 tCO₂/TJ for wood/wood waste.

$EF_{fuel, nonCO2}$ = non-CO₂ emission factor of the fuel that is reduced
 $LE_{p,y}$ = leakage for project scenario p in year y (tCO₂eq/yr)

The parameters $NCV_{b,fuel}$ and $NCV_{p,fuel}$ are not applicable to this project since EF is in units of tCO₂/t_{fuel} (see methodology page 21). Therefore,

	the formula applied is: $ER_y = \sum_{b,y} (N_{p,y} * U_{p,y} * P_{p,b,y} * (f_{NRB,b,y} * EF_{fuel,CO_2} + EF_{fuel, nonCO_2})) - LE_{p,y}$ The total Baseline emission estimations are 535,493 tCO₂e. A detailed assessment of all the parameters used to calculate/ estimate emission reductions is provided under section E.3.4.2 of this report. The values presented in the monitoring report /3/ and calculations in the corresponding ER sheet /4/ were found appropriate and complying with provisions prescribed in the registered monitoring plan/1/ of the PDD/1/ and applied methodology/2/. The verification team confirms that an audit trail containing evidence and records validating the stated figures was thoroughly examined and found to be legitimate.
Findings	No Findings Raised.
Conclusion	The verification team verified that: a) A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.3.4.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet /4/ of final Monitoring Report /3/. b) The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.3.4.2 of this report. c) The calculations of baseline emissions as presented in the corresponding ER calculations sheet /4/ of final Monitoring Report /3/ were checked and found to be consistent with the formulae and methods described in the registered monitoring plan of of the PDD/1/ and applied methodology/2/. d) All assumptions used in the emission calculations were found appropriate and therefore justified. e) Appropriate emission factors, IPCC default factors and other reference

	values have been correctly applied. This has also been elaborated under Section E.3.4.1 of this report. f) No standardized baseline was prescribed in the registered PDD/1/.
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E.3.7.2. Calculation of project value or estimation of project situation of each SDG Impact

Means of verification	SDG 1: No poverty The project estimation for this SDG is 212 hrs and 4342 KES, and is acquired through annual household surveys, and derived from a representative sample of the interviewed users. This information is confirmed from the Monitoring usage survey results /32/. Furthermore, the verification team's audit survey responses from end users revealed significant savings in both time and money from the collection and purchase of wood fuel. SDG 3: Good health and well-being Project estimate for this SDG is 100% (users reporting improved air quality) and is acquired from a statistical average of a representative sample from household interviews in annual household surveys. This information is confirmed from the monitoring Usage survey/32/ and re-verified by verification team through interviews with ICS users during the audit/33/. All interviewees reported improvement in air conditions in the kitchens, confirming survey results. SDG 4: Quality education The value for this SDG is 2364 (persons reached for awareness creation), which is recorded through training programs such as, Community Savings and Loaning, Stove construction, climate change awareness and education, and various other training activities/22/. The verification team has confirmed from the awareness creation reports, interviews with PD, artisans, and end users/33/ that actual physical education forums were conducted during the monitoring period. SDG 5: Gender equality
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The value for this SDG is 46% (109) women receiving income from the project. The number of women employed by the PA is calculated by dividing number of female employees by total number of employees. This information is confirmed by the list of employees/27/ provided. Additionally, from the audit interviews with PD, it is evident that women are included in various stages of project implementation.

SDG 7: Affordable and clean energy

The number persons that benefit from efficient and clean cooking is 28,064 and is the sum of all stoves installed during the monitoring period recorded in the project database/4/, multiplied by usage rates from latest usage surveys(2023) i.e 88.07%, and by the average household size(5.3) derived from latest monitoring surveys. This is confirmed from the Usage survey results/32/ and the calculations in the ER sheet/4/ for this SDG.

SDG 8: Decent work and economic growth

The value of this SDG is 236 and is recorded by the PD as the number of persons that receive an income more than what they were earning prior to project, and number of persons employed by the project with salaries at par with or above host country standards. This is confirmed from the project staff records /27/. It is also confirmed during the audit that the project offers the claimed employment impact/33/.

SDG 12: Sustainable consumption and production

The value for this SDG is 54.0% (0.0034 t wood/day/stove) and is acquired dividing fuel savings by baseline fuel consumption expressed as %.This confirmed from the 2023 PFT results analysis./17/. From the audit interviews, it was observed that with the use of ICS, users are saving wood compared to when they were using open traditional stoves.

SDG-13: Climate Action

There were no project GHG emissions in the project scenario, therefore, only the emission reductions achieved (compared with baseline) are provided, and the project estimates for the SDG indicator were 246,121 tCO₂e.

	The project is reducing 289,372 tCO₂e, as confirmed by the ER calculation sheet /4/. All data used to calculate the ERs has been thoroughly assessed, and the calculations have been reproduced for verification. The values for all the parameters listed above have been assessed under section E.3.4.1 and E.3.4.2. of this report.
Findings	No Findings Raised
Conclusion	The verification team verified that; A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.3.4.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet /4/ of final Monitoring Report /3/. The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.3.4.2 of this report.

E.3.7.3. Calculation of leakage

Means of verification	As per the applied methodology, leakage assessment is conducted every two years to update monitoring parameters over time. PD Leakage assessment has been reviewed and it is found that there was no leakage during the monitoring period. This was confirmed from the estimates made during revalidation/1/ and the 2023 MUS/32/.
Findings	No Findings Raised.
Conclusion	VVB confirms that the leakage assessment was appropriately conducted and that the justifications provided in the MR/3/ are reliable.

E.3.7.4. Calculation of net benefits or direct calculation for each SDG Impact

Means of verification	Below are the PA's estimated SDG Impacts for the monitoring period under consideration.				
	SDG No.	SDG Impact	Baseline estimate	Project estimate	Net benefit

	13	Amount of CO2e emissions reduced by the project per year.	535,493	246,121	289,372 tCO ₂ e
	1	Time (hours) and money (KES) saved per household per year due to fuel savings achieved by project stoves	404 hours KES 12,906	212 hours KES 4,342	192 hours KES 8564
	3	Proportion (%) of positive comments from stove users on air quality improvement with project stove	0%of stove users starting improved air quality	100% of stove users stating improved air quality	100% of stove users stating improved air quality
	4	Number of persons reached with awareness creation	0 Schools/Person s reached with awareness creation	2,364 Persons and 0 schools reached with awareness creation	2,364 Persons and 0 schools reached with awareness creation
	5	Number of jobs offered by TYCSD to local female employees	0 Number of female employees	46% of employees are women.	46% of employees are women. 109 Women employed by GS PA.

	7	Number of persons that benefit from efficient and clean cooking technologies	0 Beneficiaries	28,064 Beneficiaries	28,064 Beneficiaries
	8	Number of jobs offered by TYCSD to local employees at good conditions.	0 Number of employees	236 Number of employees	236 employees
	12	Fuel savings in % achieved by project technologies compared to baseline.	0.0075t wood/ day/ stove	0.0034t wood/ day/ stove	0.0041 t wood/ day/ stove 54.0% fuel saving
Findings	No Findings Raised.				
Conclusion	The calculation method and formulae applied for all the SDG impacts were checked with registered PDD/1/ and applied methodology/2/. The verification team confirms that the stated figures were checked and found to be correct.				

E.4. Comparison of actual SDG Impacts with estimates in approved PDD

Means of verification	Section E.5 of the Monitoring Report has provided a comparison of estimates with actuals for outcomes obtained during current monitoring period.			
	SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period	
	SDG 13	143,672 tCO ₂ e	289,372 tCO ₂ e	
	SDG 1	No estimate available	192 hours	

			KES 8564
SDG 3	Expected participants to respond that indoor air quality has improved over baseline.	100% of stove users stating improved air quality	
SDG 4	No estimate available	2,364 persons and 0 schools reached with awareness creation	
SDG 5	Project is expected to train and generate income for 300 women.	46% /109 women employed	
SDG 7	No estimate available	28,064 beneficiaries	
SDG 8	No estimate available	236 Persons	
SDG 12	No estimate available	54.0% fuel savings	
A review of PDD and ER calculation spreadsheets/4/ demonstrated that 143,672 tonnes were estimated to be reduced between 01/01/2023 to 31/12/2023. But 289,372 tCO₂e are reduced during the current monitoring period, which led to the conclusion that actual emission reductions achieved are more than the amount estimated. Therefore, the percentage variation between the estimated and achieved emission reductions is approximately 101.4%.			
Findings	No Findings Raised.		
Conclusion	The actual emission reductions achieved in the current monitoring period for the PA is higher than the emission reductions stated in the PDD /1/ for this MP. Therefore, it has been accepted by the verification team.		

E.4.1. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

Means of verification	As verified and evident from the Monitoring Report /3/ and corresponding ER calculations sheet /4/, the actual emission reductions achieved for project stove for the PA under this verification in the current monitoring period were found to be more than the estimated quantity in the PDD/1/ for the comparable period. Considering there was increase in ICS installations (progressive) and higher use than projected in the PDD/1/ (65,400 projected versus 129,648 actual installations) the ERs are also bound to increase. The quantitative details of actual values of achieved ERs for the PA and value estimated in the PDD/1/ is presented in the above table.
Findings	No Findings Raised
Conclusion	The increased SDG Impacts from the estimated value was justified by the increased ICS installation confirmed from the project database/4/ and increased ICS usage was found to be an acceptable justification.

E.5. Stakeholder Inputs and Legal Disputes

Means of verification	During the 6th Monitoring period, it was noted that ICS users reported difficulties in usage and maintenance. The three issues reported by only three stove users included cracking of newly constructed stove, difficulties lighting newly installed stove and wrong positioning of stove in the kitchen. The three issues reported were addressed through training and repair, taking the artisans less than a day(i.e. between 1-3 hours). It is observed as reported in the MR/3/ and confirmed in grievance logbook /12/ that the repairs and repositioning of the stove were conducted in a manner that did not impact stove usage. Therefore, there was no effect on the technology use days. PP has provided a snapshot of the grievance record/12/ to the verification team as evidence for verification. The same is documented in section G.1 of the monitoring report/3/. During the audit, the verification team confirmed that the end users are aware of the grievance mechanism established by the project activity and are utilizing it appropriately/33/. As confirmed from external sources such as GS registry and other web searches , there are no legal contestations against the GS PA.
------------------------------	--

Findings	CL#03 raised and successfully closed.
Conclusion	VVB confirms that no concerns or legal disputes have arisen throughout the monitoring period. The grievances raised by the end users have been addressed as required by GS.

SECTION F. Internal quality control

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

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

SECTION G. Verification opinion

Earthood Services Private Limited (Earthood), contracted by, has performed the independent verification of the emission reductions for the GS Project Activity (GS879) "Energy Efficient Cook Stoves for Siaya Communities, Kenya implemented the host country "Kenya" for the monitoring period 01/01/2023 to 31/12/2023, as reported in the Monitoring Report, version 1.2, dated 24/07/2024. Tembea Youth Centre for Sustainable Development Group is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity. Earthood commenced the verification against the baseline and monitoring methodology, Technologies, and Practices to Displace Decentralized Thermal Energy Consumption Version 2.0/2/, the monitoring plan contained in the registered PDD, and Monitoring Report version 1.2, dated 24/07/2024.

VVB's 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. Earthood planned and performed the verification by obtaining evidence and other information and explanations that Earthood

considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

The verification team confirms that:

- The PA was found completely implemented as per the description given in the registered PDD.
- The actual operation conforms to the description in the registered PDD

SECTION H. Certification statement

Earthood's 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. ESPL planned and performed the verification by obtaining evidence and other information and explanations that Earthood considered necessary to give reasonable assurance that the 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 1.2, dated 24/07/2024 Earthood, based on outcome of verification activities, certifies in writing that, during the current monitoring period 01/01/2023 to 31/12/2023 the registered GS Project Activity (GS879) "Energy Efficient Cook Stoves for Siaya Communities, Kenya achieved the verified amount of 289,372 tCO₂e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the PA.

The verified amount of emission reductions is stated below as per implemented PA and as per commitment period:

Verified and certified emission reductions as per commitment period:

Commitment period	Amount (tCO ₂ e)
From 01/01/2023 till 31/12/2023	289,372 tCO ₂ e

Appendix 1. Abbreviations

Abbreviations	Full texts
AQL	Acceptable Quality Level
CAR	Corrective Action Request
CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PS	Clean Development Mechanism Project Standard
CDM VVS	Clean Development Mechanism Validation and Verification Standard
CER	Certified Emission Reduction
CL	Clarification Request
PD	Project Developer
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CP	Crediting period
ER	Emission Reductions
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
MR	Monitoring Report
PDD	Project Design Document
PA	Project Activity
TA	Technical Area (with in Sectoral Scope)
TR	Technical Reviewer
VER	Verified Emission Reductions
VVB	Validation and Verification Body
VVS	Validation and Verification Standard
UNFCCC	United Nations Framework Convention on Climate Change
UNFCCC	United Nation Framework convention on Climate change
QA/QC	Quality Assurance and Quality control
PA	Project Activity

GS	Gold Standard
ICS	Improved Cook Stove
SDG	Sustainable Development Goals
TYCSD	Tembea Youth Centre for Sustainable Development
MUS	Monitoring Usage Survey
KPT	Kitchen Performance Test
BFT	Baseline Filed Tests
PFT	Performance Field Tests
KES	Kenya Shillings
ICS	Improved Cookstove
KEBS	Kenya Bureau of Standard

Appendix 2. Competence of team members and technical reviewers

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

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

Competence Statement (ISO14065)			
Name	Sukanya Phukan		
Education	M.Sc (Environmental Science and Technology) B.Sc (Zoology)		
Experience	1+ year		
Field	Environment Science		
Approved Roles			
Team Leader	YES (VM only)		
Validator	YES (VM only)		
Verifier	YES (VM only)		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	YES (VM TA 1.2, 3.1)		
Reviewed by	Shifali Guleria (Quality Manager)	Date	23/06/2023
Approved by	Deepika Mahala (Technical Manager)	Date	23/06/2023

Competence Statement			
Name	Virginia Njeri		
Country	Kenya		
Education	Diploma (Business Management)		
Experience	10+ Years		
Field	Administration		
Approved Roles			
Team Leader	No		
Validator	Yes		
Verifier	Yes		
Methodology Expert	No		
Local expert	Kenya		
Financial Expert	No		
Technical Reviewer	No		
TA Expert	Yes(TA 3.1)		
Reviewed by	Shifali Guleria	Date	01/04/2024
Approved by	Deepika Mahala	Date	01/04/2024

Appendix 3. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
1.	Myclimate Foundation & TYSCD	Registered PDD	Version 3.2.6 Dated 10/02/2023	PD
2.	The Gold Standard Foundation	Technologies and Practices to Displace Decentralized Thermal Energy Consumption	Version 2.0 Dated 24/04/2015	Others
3.	Myclimate Foundation & TYSCD	Monitoring Report	Initial Version 1.0 dated 10/03/2024 Revised Version 1.3 Dated 19/09/2024	PD
4.	Myclimate Foundation & TYSCD	1. ER Sheet 2. Sales Record	1. Version 01.0 2. Version 01	PD
5.	The Gold Standard Foundation	GS4GG Principles and requirements:	Version 1.2	Others
6.	The Gold Standard Foundation	GS4GG GHG emissions Reduction & Sequestration Product requirements	Version 2.3 Dated: 29.04.2024	Others
7.	The Gold Standard Foundation	GS4GG Community services activity requirements	Version 1.2	Others
8.	The Gold Standard	GS4GG MR Template & TEMPLATE GUIDE	Version 1.1, Dated 14/10/2020	Others

	Foundation	Monitoring Report v. 1.1		
9.	UNFCCC	Standard for Sampling and surveys for CDM project activities and programmes of activities	Version 9.0	Others
10.	Gold Standard SustainCert	Previous Verification report corresponding to the 5 th MP	Version 1.0 dated 10/07/2023	Others
11.	SustainCert	GS879_GS4GG Performance Review_Round 2_FINAL_11082023_5 th MP GS879_Performance Review_IV round_FINAL_13022023-4 th MP	-	PD
12.	TYCSD	Grievance Expression book	2023	PD
13.	TYCSD	Training Attendance list for various trainings- - Data entry - Monitoring protocols /manual - Usage survey		PD
14.	IPCC	IPCC Guidelines for National Greenhouse Gas Inventories Tables 1.2/2.5	Vol 2 Volume 2	Others
15.	IPCC/GS4GG	GWP: IPCC AR5, - https://www.ipcc.ch/assessmentreport/ar5/ https://globalgoals.goldstandard.org/ru-2020-applicability-of-global-warming-potential-for-gold-standard-for-the-global-goals-projects/		Others
16.	TYCSD	BFT Study	June/July 2017	PD

17.	TYSCD	Project PFT - PFT survey results - PFT Training report - Questionnaires - Trained KPT enumerators List - PFT weighing scales - Calibration protocol	2023	PD
18.	TYSCD	Baseline KPT survey		PD
19.	TYSCD	M/Usage survey form /Questionnaire		PD
20.	TYSCD	Leakage assessment Report /MR part	2017 & 2023	PD
21.	TYSCD	Random Sample Generator /Excel Part	-	PD
22.	TYSCD	Awareness creation - CSL attendance sheets and Pictures - Stove Usage trainings pictures - Awareness Creation Attendance Spreadsheet	2023	PD
23.	TYSCD	Field Team Training attendance sheets	2023	PD
24.	TYSCD	Artisans Training Attendance sheet/list & Artisan's review meetings attendance	2023	PD
25.	TYSCD	Complaints Record	2023	PD
26.	TYSCD	Lead artisan & Artisans Data Records		PD
27.	TYSCD	Employees records Project Staff	2023	PD

		- Artisans - community mobilizers		
28.	TYSCD	CSL Savings and Social Fund Records		PD
29.	TYSCD	Monitoring Manual		PD
30.	TYSCD	Onsite Audit Stove Photos and office		PD
31.	TYSCD	SP-SPA Receipts/Purchase Receipts/Carbon Waiver forms		PD
32.	TYSCD	Monitoring/Usage Survey Results and analysis Sheet	2023	PD
33.	VVB	VVB Onsite Visit Field survey questionnaire (end users)	2024	PD
34.	GS4GG	Requirements and Guidelines Usage Rate Monitoring version	Version 2.0	Others
35.	TYSCD	Weighing Scales Pictures		PD
36.	TYSCD	KEBS Certification/protocol		PD
37	UNFCCC	http://cdm.unfccc.int/DNA/fNRB/index.html		Others
38	UNFCCC	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/		Others
39	GS4GG	Validation and Verification Standard	V1.0	Others
40	PD	SDG Tool		
41	PD	Verification Checklists- Usage rates requirements		
42	GS4GG	Site Visit And Remote Audit Requirements And Procedures	V2.0	Others

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

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

FAR ID	Section no.	Date : DD/MM/YY
Description of FAR		
Project participant response		
Date : DD/MM/YY		
Documentation provided by project participant		
VVB assessment		
Date: DD/MM/YY		

Table 2. CL from this verification

CL ID	01	Section no.	MR: Template Guide/Project Information Page	Date : 22/05/2024
Description of CL				
1. As per the Template Filling guidelines, MR template is not to be altered. PP shall Revise the table of contents and delete the box in page 2 of MR.				
2. In the KPI Table, PD has indicated the monitoring period as 5 th MP. PD shall correct the MP date.				
Project participant response				Date : 06/06/2024
1. Section revised				
2. Changed to reflect 6 th MP				
Documentation provided by project participant				
1. Revised MR				
VVB assessment				Date: 14/06/2024
1. The MR Template's presentation's revision has been confirmed. Closed.				
2. The MP date correction has been confirmed. Closed.				

CL ID	02	Section no.	MR: A.3	Date : 22/05/2024
Description of CL				
1. Section A.3: PD shall include the latest version of sampling guidelines applied alongside the applied methodology.				
Project participant response				Date : 06/06/2024
1. Details included in section A.3				
Documentation provided by project participant				
Revised MR.				
VVB assessment				Date: 14/06/2024
1. The latest version of sampling guidelines (version 4) has been included in section A.3. Closed.				

CL ID	03	Section no.	MR: G	Date : 22/05/2024
Description of CL				
1. Section G.1: PD states that in the monitoring period no grievance issue was reported. However, the grievance book snapshot provided shows some issues were reported. PD shall revise the MR accordingly. 2. Section G.3: PD states that GPS coordinates for all the households visited for the usage survey were collected and included in the monitoring data. However, this is not recorded in the monitoring data. PD shall provide the information or clarify its absence. 3. Section G.3: Annex 1, the PD indicates that the team leader contacted 39 households out of the 444 households reached for the usage survey. However, the table in Section D.4 shows that 594 households were successfully surveyed. Additionally, only 13 verification checks have been documented. It is not clear how the recommended 5-10% verification checks, as per paragraph 2.2.13 of the usage survey guidelines v2.0, have been met. PD is requested to clarify these discrepancies, correct the figures, and submit the verification checklist. 4. Section G.3: PD states that 91 community mobilizers have been recruited and trained. However, the list of mobilizers recorded in the project employees' records and section D.2 of MR is 138. PD shall address the inconsistency.				
Project participant response				Date : 06/06/2024
1. Grievance issues raised included in the monitoring period section G1. 2. GPS points included in the data analysis sheet (GS 879_Monitoring_Usage_Survey_2023.V01.1.xlsx). 3. The verification checks files submitted on sample basis. A total of 35 verification checks conducted against 594 surveys representing 5.8%, which is within the range as per guidelines. 4. Section revised to indicate correct number 138.				
Documentation provided by project participant				
1. Revised MR 2. GS 879_Monitoring_Usage_Survey_2023.V01.1.xlsx). 3. Verification Checks Samples				
VVB assessment				Date: 14/06/2024
1. The grievances issues inclusion in section G1 has been confirmed. The grievances also consistent with the Grievance book evidence provided. Closed. 2. The GPS points addition to the MUS 2023 are confirmed. A sample taken also confirms consistency with the project database. Closed. 3. The revision of the number of community mobilizers from 91 to 138 has been confirmed. The Employees records evidence also indicate the same updated figure. Closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	MR: B.1	Date : 22/05/2024
Description of CAR				
1. Section B.1; A statement, “The project continuously installed efficient cookstoves since the start of the project implementation. Since then, a total of 110,299 project stoves have been installed. In this way the project could provide clean and efficient cooking to 516,199 persons”. VVB observes that the summary table in this section records a total of 129,648 stoves constructed from 2011-2023 and a total of 28,064 persons (table 1&2) have benefited from clean efficient cooking. PD shall in this regard: a. Clarify the values applied in calculation to arrive at either 516,199 and 28,064 persons. b. Clarify and/or correct the total number of stoves in the summary table, and revise all other sections/documents impacted by the changes. c. Clarify and/or correct the construction numbers made in 2022. According to historical data (5th MP), the number of stoves installed in 2022 was recorded as 26,562, whereas in this 6th MP, the record for the same year is 39,887. 2. Section B.1: The number of artisans trained is recorded as 46. However, discrepancies arise when comparing this figure to other records. According to the GS879_list of project staff_2023.xls, the total number of artisans for 2023 is 177. Furthermore, the GS879_Artisans Trained & Worked in 2023.xls document states that 116 artisans were trained in 2023, and 177 artisans working in 2023. a. PD shall clarify these figures and explain why only a portion of the artisans were trained, besides the artisans training datasheet has only 17 participants signed. b. PD shall provide a worksheet in the 231215_Artisans Trained up to 2023.xls to demonstrate Artisans trained up to 2023.(the last worksheet only shows artisans trained up to 2022). c. PD shall clarify the artisan training dates recorded in the Artisans training report -Rarieda_docx (7th -18th August 2023) against the MR statement “. Two trainings were conducted on the following dates:23rd -30th January 2023 and 20th -30th March 2023”. d. PD shall clarify if the number 2364 represents 2023 or 2022. See, Tab “Awareness creation 2022” of GS879_awareness_creation_2023.xls.				
Project participant response				Date : 06/06/2024

a) To ensure clarity the paragraph has been revised to indicate only the number of stoves constructed. We consider annual values, as per previous monitoring reports. See summary for SDG 7 on page 16/7 b) In the 5th MP only construction up to 23/08/2022 were considered for monitoring and ER calculation, due delays in collection and verification of all construction data before inclusion in the final sales record. Footnote no 2 on page 7 of the MR included to provide explanation. c) Clarified in b above.	
2.below	
a) 15 artisans were trained in 2023, 83 were active in 2023 (15 newly trained and 68 retained from previous years). Refer to file GS879_list of project staff_2023.xlsx. In the attendance sheets 2 are Tembea staff making number of trainees 15. b) File uploaded (231215_Artisans Trained up to 2023.xlsx). c) Section revised, one training conducted 7-18th of August. d) File revised; this value represents impact result for 2023.	
Documentation provided by project participant	
a) GS879_list of project staff_2023.xlsx b) 231215_Artisans Trained up to 2023.xlsx c) GS 879_awareness_creation_2023.xlsx d) Revised MR	
VVB assessment	Date: 14/06/2024
1. (a) VVB confirms that the said paragraph has been revised and only the total number of stoves constructed (129,648) have been indicated. This number is consistent with the project database and the Table in the MR section B.1. The SDG 7 in pages 7&16 have been checked and indeed the calculation is confirmed to be based on the annual values i.e. number of stoves constructed during the applicable monitoring period. Closed. (b & c) The clarification regarding the number of stoves claimed during MP5-26,562 and the addition of more stoves to total 39,887 for 2022 has been confirmed. The footnote information confirms this. Additionally, the VVB has verified that the total number of stoves in the project database includes all those constructed in 2022, confirming consistency. Closed. 2. (a) The clarification regarding the number of artisans trained and working in 2023 (15+68 respectively) is accepted. The text in MR section B.1 now matches the artisan training records evidence provided. Closed. (b) The artisans training worksheet for 2023 "231215_Artisans Trained up to 2023.xls" has been submitted and checked. All information is consistent with (b) above. Closed. (c) The section's revision is confirmed. The training Manual/report also contains the same dates 7th-18th, therefore consistency is also confirmed. Closed. (d) The Tab "Awareness creation 2022" of GS879_awareness_creation_2023.xls. File revision has been confirmed. The 2364 represents number of people reached in 2023 and not 2022. Closed.	

CAR ID	02	Section no.	MR:D.2	Date : 22/05/2024
Description of CAR				
1. Section D.2. PD provides the source of data for some parameters as the GS879_Monitoring_Usage_Survey_2023.V01.1.xlsx]Monitoring Survey_2023!\$BD\$617. Upon evaluation of the reference, VVB observes the following; a. Column A: The list of questionnaires runs up to 621. However, the number of successfully sampled, as per cell AD608 and MR section D.4 is 594. PD shall clarify the consistency. b. Some of the data from households monitored is duplicated in the results provided. PD shall clarify and/or correct the data. e.g. Benta Auma, Helida Adhiambo. Also see Cells: AH184 & AH 186. c. Column CE & CH: The respondents who indicated collection as a means of fuel acquisition have also responded to savings in monetary terms. PD shall clarify and/or correct the analysis.				

d. PD shall address incompleteness of sampled stoves in the BT613 and BU613.

2. Section D.2: Parameter **Usage (Up,y)** is capped at 90%. Upon evaluation of the usage breakdown, It is noted that the usage rate for the 3-4 age category in the current monitoring period (MP) is 77.5%. Although the analysis finds the usage rate not to significantly deviate with values within the same MP, when compared to historical data from the 5th MP, where the usage rate for the 3-4 age category was 94.3%, there is a significant difference. This notable decrease from 94.3% to 77.5% suggests a considerable drop in the usage rate in one year for this set of stoves. Similarly, the 9-10 age category also shows a substantial decrease from 100.0% in the last MP to 86.8% in the current MP. PD shall clarify the underlying factors contributing to these declines an occurrence not observed in other age categories.
3. Parameters Pp,y is sourced from PFT 2023 and the value applied is 1.2110. Parameter Pp,b,y is sourced from PFT 2021 and value applied is 1.2110. The value applied in ER calculation sheet is also 1.2110. However, the PFT 2023, which is applicable for the 6th MP shows that fuel consumption is 1.258244633 (see GS879 PFT Update analysis V01 -Tab Calculation sheet, cell M2). PD shall clarify the application of 2022 PFT, revise all relevant calculations as per the results of PFT 2023, and update the MR and ER spreadsheet values.

Project participant response

Date : 06/06/2024

1.
 - a) details included in section D.4. Table with successful surveys and explanation on dropped surveys that were incomplete.
 - b) the households represent different users, with different addresses, GPS points and stove unique ID but same name. Examples as per table below

Name	Stove id	GPS points	Address
Helida Adhiambo	TEMBEA12/8815	3.914/ 34 12.071	65, Ukwala
Helida Adhiambo	TEMBEA23/127884	98845/34.3836086	Omia malo , 10 Nyilima

c) this is based on end user perception on savings incurred due to reduced collection costs.

d) table and explanation used and provided in section D.4

2. For stove ages 3-4 and 9-10, the higher number of households not using their stoves in the 2023 Usage survey may not directly correspond to responses from the last monitoring period. Each household's non-usage in each sample could be influenced by unique factors, such as changes in circumstances or preferences. Therefore, our analysis relied on the unique experiences of users in the current sample, recognizing that each sample is unique to itself.
3. The correct value is consistently applied from PFT 2023 results.

Documentation provided by project participant

1. Revised MR
2. GS879 PFT Update analysis V01

VVB assessment

Date: 14/06/2024

1.
 - (a) The breakdown of the sampling process and numbers of s selected 621 and successfully monitored samples 594 has been confirmed in the table added in section D.2 of MR. **Closed**
 - (b) VVB has confirmed that the households only bear similar names, but GPS points , and locations(address) and stove IDs are all unique as clarified by PD. Therefore, no duplications in MUS results. **Closed.**
 - (c) The clarification on the collection category users' responses to money savings is accepted. It is logical that any frequent purchase would also result in higher expenses
 - (d) b above clarifies the issue of sampled stoves. The cells in the MUS datasheet now correspond with the table provided.
2. Clarification on usage changes for the years 2022 and 2023 is accepted. VVB accepts that the trends and preferences may change from user to user as PD explained. **Closed.**
3. The clarification on parameters Pp,b,y and Pp,y is accepted. The value revisions to 1.258244633 in both the MR and ER sheet have been confirmed. The applicable value in is now consistent with PFT 2023 results. **Closed.**

CAR ID	03	Section no.	MR:D.4	Date : 22/05/2024
Description of CAR				
1. Section D.4 PD states that “Using simple random sampling 40 samples were selected per age group”. However, in the table presented in the same section shows that samples exceeded 40 for majority of the age groups. Furthermore, the MUS raw data presents different information. PD shall clarify and/or correct the inconsistencies. 2. Section D.4 PD states that “In this monitoring period there are 10 age groups as indicated in the table below.”. However, the age groups present add up to 12 ages groups.				
Project participant response				Date 06/06/2024
Revised MR				
Documentation provided by project participant				
1. Section revised appropriately. 2. Section revised.				
VVB assessment				Date: 14/06/2024
1. The section's revision is confirmed. The samples are now classified to align with the exact and specific sampled numbers for each age group, and successfully surveyed numbers for each age group as well. Closed. 2. The section' revision of the age groups from 10 & 12 to 13 is confirmed. The stoves presented are from 13 age groups. Closed.				

CAR ID	04	Section no.	ER Spreadsheet	Date : 22/05/2024
Description of CAR				
It is observed that in the GS 879 Tembea cook-stove ER spreadsheet ‘Summary sheet’ the monitoring period stated is indicated as 5 th whereas the MR indicates the same as 6 th . PP to correct the inconsistency to reflect correct MP.				
Project participant response				Date : 06/06/2024
1. Revised to reflect 6 th MP.				
Documentation provided by project participant				
Revised ER Sheet				
VVB assessment				Date: 14/06/2024
The ER Sheet's revision from 5th MP to 6th has been confirmed. Closed				

CAR ID	05	Section no.	Site Visit	Date : 26/06/2024
Description of CAR				
During the RSV, It was observed that the Stove IDs of the households interviewed for the PFT survey for following households were inconsistent with the database shared to VVB.				
1. Millicent Anyango Owino 2. Helida Adhiambo 3. Anne Atiano 4. Conslata Aloo 5. Pamela Adhiambo 6. Eunice Auma				
PD is requested to provide evidence to substantiate the stove IDs.				
Project participant response				Date : 26/06/2024
. There was an error caused by using the sort function of excel without affecting all columns. The same was corrected in the file-uploaded on google drive with this round. We have provided the stove purchase agreement, and artisan sheet for the 3 highlighted users on sample basis.				
Documentation provided by project participant				
GS 879_PFT_Update_analysis_V01				
VVB assessment				Date: 27/06/2027

PD has provided a corrected PFT 2023 xlxs which now reflects the correct stoves serial number for households' numbers 1,2,4,5,6. The artisans' documents were also checked, and the serial numbers now match those in the PFT spreadsheet and the RSV. However, the Anne Atieno's stove number provided in RSV is 1419060 , is not provided in the artisan's documents, neither does it match the Spreadsheet(TEMBEA14/16533). Please clarify and/or correct. Open	
Project participant response	Date : 30/06/2024
There were errors due to the sort function. The correct household detail is T14/19060 the same has been corrected on the google drive PFT 2023, find additionally the PFT survey tool, stove purchase agreement, Artisan and lead artisan data sheet highlighted in yellow.	
Documentation provided by project participant	
1. Revised Evidence Folder 2. Lead Artisans Forms	
VVB assessment	Date: 01/07/2027
PD has clarified the cause of errors identified in Anne Atieno's ID Stove ID and provided evidence for the correct stove ID. The ID provided in the Artisans document, (which is recorded during construction) is now consistent with one provided by household during the audit. Closed.	

Table 4. FAR from this verification

FAR ID	Section No.	Date : DD/MM/YYYY
Description of FAR		
Project participant response		Date : DD/MM/YYYY
Documentation provided by project participant		
VVB assessment		Date: DD/MM/YYYY