

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Verification and certification report form for “GS10789 VPA61: Efficient and Clean Cooking for households in Nigeria” (GS11671)

BASIC INFORMATION		
Title and reference number of the project	GS10789 GS11671 VPA61: Efficient and Clean Cooking for households in Nigeria	
Scale of the project	☒ Large-scale ☐ Small-scale ☐ Micro-scale	
Version no. of the Verification & Certification report	5.0	
Completion date of the Verification & Certification report	04/08/2026	
The Monitoring Period number and duration	CP 1 st : MP 3 rd (02/03/2024 to 30/06/2025)	
Version no. of the Monitoring Report to which this report applies	1.4 (03/08/2026)	
Crediting period of the project corresponding to this monitoring period	CP 1 st (13/12/2021 to 12/12/2026)	
Project participants	BURN Manufacturing Co.	
Host Party	Federal Republic of Nigeria	
Applied methodologies and standardized baselines	TPDDTEC v3.1	
Mandatory sectoral scopes	3 (Energy Demand)	
Conditional sectoral scopes, if applicable	N/A	
Estimated amount of GHG Emission Reductions or GHG removals for this monitoring duration in the registered PDD	2,845,716 tCO ₂ e (for this MP)	
Certified amount of GHG emission reductions or GHG removals for this monitoring period	Amount from 02/03/2024 to 31/12/2024	Amount from 01/01/2025 to 30/06/2025
	1,120,703 tCO ₂ e	665,073 tCO ₂ e
	Total: 1,785,776 tCO₂e	
Name and reference number of the VVB	Ampere for Renewable Energy (UNFCCC Ref. A6.4-E-0008)	
Name, position and signature of the approver of the verification and certification report	Ahmad Qadry, Certification & Technical Manager 	

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

SECTION A. Executive summary

Ampere for Renewable Energy has conducted the verification for GS10789 VPA 61: Efficient and Clean Cooking for households in Nigeria, implemented by BURN Manufacturing Co. in the Federal Republic of Nigeria. The VVB assessed the project against the requirements of the GS and the applied methodology TPDDTEC v3.1. The VVB confirms that the project activity effectively displaces inefficient decentralized thermal energy consumption, significantly contributing to the targeted Sustainable Development Goals (SDGs) and demonstrating verifiable climate change mitigation.

Project Contributions to SDGs

- The project successfully delivered 1,785,776 VERs under SDG 13 through the Verified GHG ERs.
- HHs experienced an average of 30% monetary savings related to the purchase of charcoal under SDG 1.
- Usage surveys confirmed that 97.95% of HHs perceived an improvement in air quality, supporting SDG 3.
- The PP trained 50 individuals, comprising 26 females and 24 males, advancing SDG 4.
- End-users reported an average time saving of 56 minutes per day associated with cooking in the project scenario, aligning with SDG 5.
- A total of 205,711 ICS units is currently in use, ensuring access to affordable clean energy under SDG 7.
- The project created 44 local jobs, directly promoting decent work and economic growth for SDG 8.
- The continued use of the project technologies saved 533,981.38 tons of non-renewable biomass, contributing directly to SDG 15.

Project Background and Objectives

The baseline scenario prior to the implementation of the project involved the widespread use of inefficient traditional cookstoves consuming non-renewable charcoal and firewood across urban and peri-urban households (HHs) in Nigeria. The PP maps the distribution of these technologies to Urban, Peri-urban, and Rural areas to ensure alignment with the target demographic. For a detailed breakdown of the spatial classification confirming adherence to the project boundary, please refer to Section E.3 of this MR. This high reliance on unsustainable biomass led to severe deforestation, substantial greenhouse gases (GHGs), and detrimental indoor air pollution causing respiratory diseases. To mitigate these impacts, the PP deployed efficient charcoal cookstoves, including the Jikokoa Classic, Jikokoa Xtra, and Ecoa Char MMJ models, which:

1. Reduce woody biomass consumption while respecting the local cooking culture.
2. Mitigate global climate change by reducing GHG emissions through decreased consumption of non-renewable woody biomass.
3. Improve community health by reducing indoor air pollution and smoke-related illnesses.
4. Foster economic growth by generating local employment opportunities and reducing household fuel expenditures.
5. Promote technology transfer and capacity building through the widespread distribution of efficient cooking solutions and associated end-user training.

Scope of Verification

The verification covers the monitoring period (MP) from 02/03/2024 to 30/06/2025 within the broader crediting period (CP) extending from 13/12/2021 to 12/12/2026.

- An exhaustive assessment of the GHG emission reduction (GHG ER) calculations, including the appropriate application of baseline and project fuel consumption parameters.
- A detailed review of the monitoring system, specifically the cloud-based database tracking unique serial numbers and end-user data.
- An evaluation of the sampling plan execution, which included 195 usage monitoring surveys and 92 Kitchen Performance Test (KPT) surveys.
- Verification of the reported contributions to the targeted SDGs through cross-examination of survey results and employment records.
- Confirmation that all previous FAR findings and current verification CAR and CL findings have been satisfactorily closed by the PP.

The VVB performed these activities in strict accordance with the Ampere Co. for Renewable Energy validation and verification manual and the ISO 14064-3 standard.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Monitoring Periods Covered

The project successfully achieved a total of 1,785,776 tCO₂e in emission reductions during the current verification cycle.

Monitoring (Year)	Vintage	Start Date	End Date	Emission (tCO ₂ e)	Reductions
2024		02/03/2024	31/12/2024	1,120,703	
2025		01/01/2025	30/06/2025	665,073	
Total				1,785,776	

Table 1 Monitoring Vintages

Achievements and Contributions to SDGs

SDG 13: Climate Action

The VVB verified the calculation of 1,785,776 tCO₂e emission reductions achieved through the displacement of baseline charcoal consumption. The VVB meticulously audited the application of the baseline fuel consumption parameter $P_{b,y}$, ensuring it was strictly and conservatively set at 1.4051 tons per household per year. During the desk review and data validation phases, the VVB also confirmed the rigorous application of a 12.3% leakage rate based on actual survey findings, overriding the initial 5% default estimate to maintain strict conservativeness in the carbon accounting.

SDG 1: No Poverty

The verification team reviewed qualitative assessments from the 195 household interviews conducted via the KoboCollect platform. These records demonstrated a 30% reduction in household monetary expenditure on charcoal, confirming direct financial relief and supporting poverty alleviation at the community level.

SDG 3: Good Health and Wellbeing

The VVB evaluated the usage survey data confirming that 97.95% of users experienced a notable reduction in smoke levels, itchy eyes, and breathing problems. This metric explicitly validates the health benefits of the improved combustion efficiency of the Jikokoa models compared to traditional baseline stoves.

SDG 4: Quality Education

The VVB verified the capacity-building claims by cross-referencing training records and participant attendance lists. The PP successfully trained 50 individuals, comprising 26 females and 24 males, equipping enumerators and field staff with necessary skills for data collection, Kitchen Performance Tests, and usage survey protocols.

SDG 5: Gender Equality

The in-person monitoring surveys substantiated an average daily time saving of 56 minutes per household. This significant reduction in cooking time directly eases the domestic unpaid care burden, an impact that predominantly benefits women and primary cooks in the project boundary.

SDG 7: Affordable and Clean Energy

The total active fleet of 205,711 improved cookstoves was verified against the cloud-based distribution database. The VVB confirmed this specific figure is conservatively reached 86.16% under the Good Practice usage rate, triangulated through actual field observations of stove condition and end-user interviews.

SDG 8: Decent Work and Economic Growth

To validate economic impacts, the audit team cross-checked the employment records provided by the PP. The VVB confirmed the direct creation of 44 local jobs, encompassing both casual and contract employees engaged during this specific monitoring period.

SDG 15: Life on Land

The VVB verified the calculation methodologies for forestry preservation, confirming that the continued use of the project technologies saved exactly 533,981 tons of non-renewable biomass. The VVB specifically validated the use of a rigorous 4:1 weight-based wood-to-charcoal conversion factor strictly for this SDG outcome, completely distinct from the energy-based conversion factor applied to the emission reduction calculations.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Methodology and Verification Approach

The verification team applied the requirements of the TPDDTEC V3.1 methodology throughout the assessment.

- A thorough desk review of the MR, the VPA-DD, and the ER calculation spreadsheets to identify variances and methodological compliance.
- On-site and remote data gathering involving physical inspections of the tracking infrastructure and the digital database managed via KoboCollect.
- Comprehensive sampling and interviews with a randomly selected cohort of end-users for the Kitchen Performance Tests and usage surveys, adjusted using standard adult equivalent parameters.
- Rigorous data validation triangulating the unique serial numbers against, distribution logs, shipment dates, and end-user registrations.
- A systematic review of the single FAR from the previous period regarding the maintenance of sales records, which was successfully closed after verifying the updated assignment database for the new distribution cohort.

The VVB confirms that the monitoring data and the resulting ER calculations are under the 2% threshold margin of materiality and thus free from material misstatement.

Project Location & Applicability Criterion



Figure 1 Project Location Map.

The most critical applicability boundary for this VPA revolves around the targeted distribution to urban and peri-urban HHs within the Federal Republic of Nigeria that rely on non-renewable charcoal. The VVB verified this geographic and demographic boundary through a robust triangulation of evidence. First, the registered VPA-DD strictly limits the intervention to HHs meeting this specific baseline scenario. Second, the VVB examined the GPS coordinates collected during the usage monitoring surveys, which definitively placed the operational stoves within the approved Nigerian states.

Third, the monitoring records and the execution of end-user prospecting assignments confirmed that sales agents systematically targeted HHs exhibiting the correct biomass consumption trends prior to distribution. Finally, the physical site visits and the photographic evidence gathered from the sampled kitchens provided undeniable visual proof that the stoves are actively deployed in the intended environments.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

SECTION B. Verification Team, Technical Reviewer and Approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader	IR	Hussein	Mohammad	Central	Y	-	Y	Y
2.	Verifier	IR	Tabanjah	Mohammad	Central	Y	-	-	Y
3.	Technical & Local Expert	EI	Balka Yase	David	Central	-	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	EI	K	Sudheendra	Central
2.	Approver	IR	Qadry	Ahmad	Central

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

SECTION C. Application of materiality

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.	Inaccurate calculation of the baseline fuel consumption parameter $P_{b,y}$ due to rounding up of calculated values	High	This parameter directly inflates the baseline emissions and drives the final volume of ERs.	The VVB performed an independent recalculation of the baseline fuel values and issued a CAR to the PP to apply the exact value of 1.4051 t/HH/year.
2.	Under reporting of the leakage rate $LE_{p,y}$ by applying a fixed default discount rather than measured survey results	High	Relying on a 5% default when actual field leakage is higher directly leads to a material overstatement of ERs.	The verification team reviewed the leakage survey raw data and issued a CL, resulting in the application of the measured 12.3% leakage rate.
3.	Overestimation of the $P_{p,y}$ during Kitchen Performance Tests due to incorrect Standard Adult Equivalent multipliers	Medium	Incorrect weighting factors for HH demographics can skew the per capita fuel consumption metrics used in the ER equation.	The VVB verified the KPT formulas against the Clean Cooking Alliance guidelines to ensure the age and sex multipliers were applied correctly.
4.	Overstatement of active appliances leading to an inflated $N_{p,y}$ value due to double counting or database errors	High	The total number of credited technology days dictates the maximum potential ERs generated by the 205,711 active stoves.	The audit team reviewed the KoboCollect distribution database, checking the 6-digit alphanumeric unique serial numbers and comparing them against the sample list to rule out duplicates.
5.	Application of an incorrect wood to charcoal conversion factor for the calculation of SDG 15 biomass savings	Medium	The usage rate serves as a direct discount factor on the entire stove fleet. An artificially high rate, or failing to capture the natural drop-off rate as stoves age, directly over-credits the project.	The VVB scrutinized the SDG Calculation tab and verified that the PP corrected the formula to strictly use the 4 to 1 weight ratio for the forestry impact, separate from the 3.17 energy factor.
6.	Misclassification of non-users as active users and failure to accurately assess the cumulative drop-off rate over time during usage monitoring surveys, inflating the $U_{p,y}$ parameter.	High	The usage rate serves as a direct discount factor on the entire stove fleet. An artificially high rate directly over credits the project.	The VVB evaluated survey age cohorts and verified that the usage rate declines with stove age. The PP applied Good Practice caps (maximum 90.00 percent) to newer cohorts, yielding a conservative weighted cumulative rate of 86.16 percent. Additionally, the drop-off rate is inherently captured in the KPT, as the project fuel consumption parameter ($P_{p,y}$) accounts for the increased fuel usage of aging stoves.
7.	Fading or removal of physical serial number stickers on the cookstoves over the crediting period	Low	While it poses a tracking challenge for individual units, the HH database provides redundancy for identification.	Interviews with the CME confirmed the protocol for sticker replacement during maintenance and the use of the centralized customer database for secondary verification.

Table 2 Consideration of materiality in planning the verification

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

C.2. Consideration of materiality in conducting the verification

Based on the review of the ER calculation sheet, it is confirmed with reasonable assurance that both individual and aggregated material discrepancies for the VPA have been identified and addressed in alignment with the Gold Standard requirements. The verification team conducted a comprehensive assessment of the data presented in the monitoring report and the emission reduction calculation spreadsheet.

In accordance with Section 9.6.3 of the GS VVS, a 2% materiality threshold was applied. No material discrepancies, including overestimations of emission reductions, omissions, or misstatements, were detected during the verification process.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

SECTION D. Means of verification

D.1. Desk/document review

The verification was conducted primarily as a desk review, focusing on the documentation provided throughout each stage of the assessment. Following established verification protocols and checklists, the verification team carefully examined the Monitoring Report and supporting documents to confirm accuracy, completeness, and consistency with GS requirements. Cross-referencing with additional sources, where available, and conducting independent background checks allowed for a thorough verification process.

Ampere's desk review involved the following steps:

- **Data and Information Review:** A detailed examination of the submitted data and information to ensure their accuracy, completeness, and alignment with the project's monitoring plan.
- **Monitoring Plan and Methodology Assessment:** An in-depth review of the monitoring plan and methodology as outlined in the VPA-DD, with particular attention to the frequency of measurements and adherence to quality assurance and control procedures.
- **Calculation and Assumption Verification:** A thorough review of all calculations and assumptions used to determine GHG emission reductions, ensuring they comply with the methodology requirements.
- **Data Management and Quality Control Evaluation:** An assessment of the data management and quality assurance systems to evaluate their effectiveness in supporting accurate, reliable ER reporting.

Assessment of Data Completeness: In accordance with paragraph 9.4.26 of the GS Validation and Verification Standard, the VVB assessed the data and calculations of emission reductions and SDG Impacts achieved by the registered project. The VVB confirms that a complete set of data for the specified monitoring period is available. The information provided in the monitoring report—including the master distribution database, technology-days tracking, KPT results, and usage survey logs—has been cross-checked by the VVB against raw source data (e.g., KoboCollect digital survey records, time-stamped photographs, and repair logs). Because a complete dataset is available and continuous across the monitoring period, the use of alternative monitoring arrangements or missing-data conservative gap-filling was not required. The VVB confirms that all baseline, project, and leakage emissions have been calculated using the complete datasets in strict accordance with the formulae described in the registered monitoring plan and applied methodology.

A full list of documents reviewed during verification can be found in Appendix 3 of this report.

D.2. On-site inspection

The physical inspection of the project was conducted between 24/11/2025 and 29/11/2025. The audit team visited HHs across multiple regions, specifically covering Abuja, Oyo, Ekiti, Plateau, and Kaduna. The on-site activities were executed by the Local Expert, Yasce Balka David, alongside team members Felistus Kithome and Damilola Gboyega, operating under the direct remote oversight of Team Leader Mohammad Hussein. Attendance records were strictly maintained to document the participation of all personnel during the opening and closing meetings. During the field operations, the expert verified the continued daily operation of the improved cookstoves, confirmed the integrity of the usage data, and assessed the effectiveness of user training and maintenance support.

Duration of on-site inspection: 24/11/2025 and 29/11/2025			
No.	Project performed on-site	Site location	Team member
1.	Opening Meeting	Remote	David Yase Balka
2.	Inspecting households and conducting beneficiary interviews	Ogbomoso, Oyo	
		Ago-igbira, Ekiti	
		Idogwari, Federal Capital Territory	
		Shabu, Nasarawa and Jos, Plateau	
		Kura, Kaduna	
3.	Closing Meeting	Remote	

Table 3 On-site inspection activities.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

D.3. Interviews

The meetings held during this project could be divided into meetings with the PPs and interviews with the Stakeholders during the site visit. The two tables below summarize the related important points related to these meetings.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Kithome	Felistus	Carbon Project Manager	24/11/2025 and 29/11/2025	- Confirmation of stove distribution logs, handover protocols, and distinct serial number tracking. - User training procedures regarding proper stove ignition, fuel loading, and cleaning techniques. - Availability of spare parts, repair services, and the response time for reported breakages. - Feedback channels for beneficiaries regarding stove safety, smoke reduction, and durability. - Methodology and execution of Kitchen Performance Tests (KPT) or Water Boiling Tests (WBT). - Visual verification of stove usage, physical condition, and signs of continued traditional fire use (stacking). - Frequency of monitoring surveys and the validation of household fuel-saving estimates. - Disposal or decommissioning of baseline/traditional stoves to prevent leakage.	Mohammad Hussein, Mohammad Tabanjah, David Yase Balka
2.	Njamiu	Valentine	Senior Carbon Project Manager			
3.	Mwangi	Anthony	Jn. Technical Officer			
4.	Gupta	Ayushi	Senior Technical Officer			
5.	Garg	Vinit	Senior Technical Officer			
6.	Gboyega	Damilola	Jn. MRV Officer			

Table 4 Meetings were held with projects participants along the verification process.

Refer to Appendix 8 of this report for the full list of interviewed end users.

D.4. Sampling approach

Sampling Conducted by the PD

The sampling frame required by the registered VPA-DD and the applied methodology TPDDTEC v3.1 defines the target population as all HHs registered with end-user contact details in the centralized sales database of the PP. To ensure a statistically robust representation of the active stove fleet, the methodology mandates a minimum total sample size of 100 randomly selected HHs for the usage monitoring survey. Furthermore, the sampling frame strictly requires at least 30 samples for project technologies of each age cohort being credited. For the KPT, the frame dictates compliance with the statistical parameters defined in Annex 4 of the methodology, requiring a 90/10 confidence and precision level for fuel consumption metrics.

Statistical Validity Check

The verification team conducted a rigorous evaluation of the sampling math to ensure the collected data possessed sufficient statistical power. For the KPT dataset comprising 92 samples, the standard calculation logic

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

for continuous variables yielded an achieved precision of 4.18%, well within the 30% upper bound required by the methodology. The VVB re-verified the sample size calculation and confirms it satisfies the 90/10 confidence/precision requirements for the target population size. The usage survey sample of 195 vastly exceeded the minimum mandatory parameter of 100, providing high statistical reliability for the calculation of the operational usage variables across all four age strata.

Assessment of Random Selection and Representativeness:

The VVB evaluated the integrity of the sampling framework applied during the monitoring period to ensure compliance with the methodology's random selection requirements. The VVB conducted a thorough review of the sampling spreadsheet (2025_10789_VPA_061_NIG Sampling.xlsx) provided by the PP, which contained the master project database of distributed cookstoves within the VPA. It was verified that the PP utilized a computerized random number generator to select the households for the Kitchen Performance Tests (KPT) and Usage Surveys. The VVB traced the sampled IDs back to the master database and confirmed the absence of selection bias.

Furthermore, the VVB assessed the representativeness of the selected samples by comparing the demographic, geographical, and age-cohort distribution of the sampled households against the total VPA population data. The VVB confirms that the sample accurately mirrors the broader project population, ensuring that the derived fuel consumption savings and usage rates are statistically representative.

Stratification and Cohort Analysis

To meet the rigorous requirement of 30 samples per age group, the sampling execution was stratified into four distinct cohorts. Rather than a uniform selection, the PP generated randomized lists tailored to the density of each age group, incorporating substantial buffer layers to ensure valid sample yields:

- **Boundary Age Groups (Age 0-1 and Age 3-4):** For the newest and oldest distinct stove groups, the PP generated precise randomized lists of 30 unique HHs per cohort. These selections were structured to include a balanced mix of primary monitoring targets and designated buffer units to secure the minimum threshold of 30 HHs per Age Group.
- **Core Age Groups (Age 1-2 and Age 2-3):** For the middle age ranges, the sampling pools were significantly expanded. The PP generated extensive lists containing 63 and 72 randomized households respectively. This oversampling strategy provided a deep reservoir of potential respondents, ensuring that the primary survey targets were backed by a wide margin of alternative units across the Jikokoa Classic and MMJ product lines.

The VVB assessed the composition of the final sample drawn by the PP to confirm that it adequately represents the project's target population as described in the registered VPA-DD, which covers urban and peri-urban households in the Federal Republic of Nigeria. The VVB cross-checked the sampled households against the project database /16JUN2026 Nigeria VPA 061_Ex Post ER Calculations MP111.xlsx, 'Nigeria Assignments' tab/, in which the urbanisation status of each installation is recorded under the 'Urbanisation' column.

The VVB confirms that the final sample selected by the PP contains end-users located in both urban and peri-urban areas and that both strata were included in the monitoring activity (usage surveys and KPT) conducted during this monitoring period. The VVB verified this through a desk review of the sampled households' recorded locations and urbanisation classification, corroborated by GPS coordinates in the database and by physical verification of household locations during the on-site assessment.

Cross-VPA Sampling Assessment

The VVB evaluated the sampling methodology and confirms that cross-VPA sampling was not applied for any sampled parameters during this monitoring period. All sampling activities, including the usage surveys, baseline water boiling tests, and kitchen performance tests, were designed, executed, and calculated exclusively for the target population within this specific VPA (GS11671).

Traceability and Statistical Power

A traceability check conducted during the audit confirmed that the PP provided the full population list from which these stratified samples were drawn, ensuring full transparency in the selection process. The resulting field data demonstrated high statistical reliability. The usage survey sample of 195 households vastly exceeded the minimum mandatory parameter of 100, securing high confidence for the operational usage variables. Similarly,

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

the Kitchen Performance Test dataset comprising 92 samples achieved a precision of 4.18%, satisfying the strict 90/10 confidence/precision requirements for the target population size.

Acceptance Sampling Approach Applied by the VVB

Sample Size Determination

The VVB applied a statistically robust Acceptance Sampling approach in accordance with the Standard: Sampling and surveys for CDM project activities and programmes of activities v9.0. To independently verify the authenticity of the PP's monitoring records, the audit team utilized standard statistical logic to determine the requisite sample size. The adopted values of Acceptance Sample parameters are shown in the table below after evaluating the status of project activities on the ground as well as the feasibility of physical sampling.

Parameter	Value	Parameter	Value
Acceptable Quality Level (AQL)	1%	Consumer Risk (Beta)	10%
Unacceptable Quality Level (UQL)	20%	Minimum Sample Size	18
Producer Risk (Alpha)	5%	Acceptance Number of c	1

Table 5 Acceptance Sampling Parameters.

Proportional Allocation

To ensure the audit sample accurately mirrored the project's reality, the VVB stratified the sample geographically based on the states where the project technologies were deployed. The total sample was proportionally divided to represent the clusters observed in the monitoring data, specifically targeting households located in the Federal Capital Territory, Oyo, Ekiti, Nasarawa, Plateau, and Kaduna. The allocation was carefully distributed to ensure that all targeted clusters were adequately represented in the final list of 19 main samples.

Household Selection Process

The VVB obtained the full user lists associated with the distributed cookstoves, encompassing both the total population and the newly added population cohort. To ensure no surveyor bias influenced the audit, the VVB independently selected the specific households using a randomizing function to extract the required entries from the master database. Crucially, in addition to the 19 main households, the VVB selected 8 Buffer HHs, which selected from the remaining population using a subsequent random state. This buffer list was generated to serve as an immediate replacement mechanism for any non-responses, unreachable end-users, or absent HHs encountered during the physical site visit.

Verification Execution & Results

During the physical on-site verification, the Local Technical Expert visited the independently selected HHs. The expert systematically checked the functionality of the improved cookstoves, visually confirmed the continued usage of charcoal, and cross-referenced the end-user details against the central database to validate the accuracy of the records. The physical inspection revealed zero discrepancies ($c = 0$) within the sampled cohorts. Consequently, in accordance with paragraph 33 of the applied CDM Sampling Standard, the monitoring data was accepted as accurate, as the number of non-conformities found in the sample did not exceed the acceptance number ($c = 1$).

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

D.5. Clarification Requests (CLs), Corrective Action Requests (CARs), and Forward Action Requests (FARs) raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	CAR 1, CAR 2, CAR 3	-
Compliance of the implementation and operation with the registered VPA-DD	-	-	-
Post-registration changes	-	-	FAR 1
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines		-	-
Compliance of monitoring activities with the registered monitoring plan	CL 3, CL 1, CL 2, CL 7, CL 9	-	-
Assessment of data and calculation of emission reductions or net removals	CL 4, CL 5	-	-
Assessment of reported sustainable development co-benefits	CL 6, CL 8	-	-
Others (please specify)	-	-	-
Total	9	3	1

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

SECTION E. Verification findings

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

Means of verification	The VVB systematically compared the submitted MR against the official GS MR Template v1.1 and its Guide v1.2. The Key Project Information table was cross-referenced to confirm the accuracy of all programmatic data, verifying the project GS ID, the applicable VPA-DD v4.0, and the current MR version 1.1 completed on 16/01/2026. Furthermore, the VVB traced the MP dates, 02/03/2024 to 30/06/2025, and confirmed that the CP from 13/12/2021 to 12/12/2026 reported in Section A.4 correctly aligns with the project's registered design. To guarantee strict structural compliance, the VVB conducted an exhaustive, section-by-section walkthrough of the document: • Section A (Description of project): The VVB verified that this section accurately summarizes the project boundary, the target population in the Federal Republic of Nigeria, and the correct application of the TPDDTEC v3.1 methodology as registered in the PDD. • Section B (Implementation of project): The VVB confirms this section correctly details the operational status and the specific installed technologies, explicitly listing the Jikokoa Classic, Jikokoa Xtra, Ecoa Char MMJ (Jikokoa G5) models. The VVB cross-referenced the stove distribution tables and confirmed that the PP properly addressed the prior verification's FAR within Section B.1.1. • Section C (Description of monitoring system applied by the project): The VVB traced the narrative describing the digital data flow, confirming the MR adequately explains the KoboCollect cloud-based platform and the 6-digit alphanumeric Unique Serial Number tracking architecture. • Section D (Data and parameters): The VVB systematically evaluated the parameter tables, confirming that all fixed ex-ante variables and monitored parameters were present, complete, and formatted correctly. The VVB verified that the implementation of the sampling plan was described with sufficient statistical detail. • Section E (Calculation of SDG Impacts): The VVB verified that the PP used the correct ER equations and applied the correct baseline and project parameters. Specifically, Table 1 for Sustainable Development Contributions Achieved and Table 2 for Product Vintages were checked, confirming the final tabulated figures match the approved calculation spreadsheets. • Section F (Safeguards Reporting) and Section G (Stakeholder inputs and legal disputes): The VVB verified that the PP properly addressed safeguard monitoring exemptions and accurately documented the continuous input and grievance mechanism logs, including the 697 repairs recorded during the MP. The VVB further verified the accessibility of the grievance mechanism in accordance with para 3.8 of the Stakeholder Consultation and Engagement Requirements v2.1: the physical Continuous Input / Grievance Expression Process Book is maintained at the BURN office address communicated during the Local Stakeholder Consultation and stated in Section G.1 of the MR (BURN Stoves Nigeria Limited, Suite 10B JBS Plaza, No. 375 Civic Centre Road, Opp. Yan Siminti, Kano State, Nigeria), and snapshots of the grievance book were cross-checked by the VVB and uploaded to the GS Assurance Platform. The VVB also confirmed that beneficiaries have continuous access to complementary grievance channels, namely the dedicated customer-care telephone line (+2347025006000) printed on each stove alongside the stove serial number, as well as email, SMS, WhatsApp, and walk-ins, all of which are logged in the customer experience database examined by the VVB. To validate the underlying data management and QA/QC systems, the VVB executed a comprehensive trace test. The VVB successfully traced a random sample of unique serial numbers directly from the raw KoboCollect field survey logs, through the centralized distribution database, and into the final ER Calculations workbook. The VVB confirmed that the manual data inputs captured by field agents are systematically cross-checked against the digital shipment records, ensuring no transcription errors or duplicate counting occurred. The VVB confirms that the QA/QC protocols described in the MR are actively functioning and that the report structure complies entirely with the MR Template Guide v1.2.
Findings	CAR 1: Structural and Formatting Inconsistencies

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	The VVB raised CAR 1 due to discrepancies in Section B.1, where the introductory text and technical tables listed conflicting stove models (specifically the Jikokoa G5). Additionally, Sections B.1, D.4, E.1, and E.2 contained tables lacking unique IDs and titles, inconsistent usage rate formatting, and sampling frame mismatches. The PP submitted a revised MR clarifying that the Jikokoa G5 is an upgrade of the Ecoa Char MMJ, corrected all table formatting and usage rate units, and aligned the sampling frame with surveyed serial numbers. The VVB confirmed these corrections and closed the CAR. CAR 2: Distribution Figure Discrepancies CAR 2 addressed contradictory distribution data in Section B.1, where the text cited 2,500 new stoves while the table reported 23,903 for 2024. The PP revised the MR to specify that 2,457 stoves were distributed during the MP. The VVB cross-referenced this figure with the distribution database, verified its accuracy, and closed the CAR. CAR 3: Parameter Nomenclature Error The VVB issued CAR 3 regarding a typographical error in the SDG 13 ER tables within Section E.2, where project fuel consumption was mislabeled as $P_{p,b,y}$. The PP corrected the label to the proper nomenclature, $P_{p,y}$, throughout the revised MR. The VVB verified the consistent application of the correct parameter.
Conclusion	The VVB confirms that all formatting, structural, and internal consistency issues identified during the desk review have been fully and satisfactorily resolved by the PP. The final MR, version 1.1, completed on 16/01/2026, is complete, internally consistent, and fully compliant with the Gold Standard Monitoring Report template v1.1 and Template Guide v1.2.

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

A FAR was previously raised requiring compliance with the "REQUIREMENTS FOR MAINTAINING THE TOTAL SALES RECORDS UNDER TPDDTEC METHODOLOGY" V1.0. It was mandated that complete end-user details for all new sales be maintained starting from either the next crediting period or 01/06/2024, and this was required to be cross-verified during the current assessment. Initially, the FAR was noted as unaddressed in Section B.1.1 of the MR, and a clarification request was issued. Following an update by the PP, the "Nigeria Assignments" tab within the ex-post ER calculation spreadsheet was reviewed. A representative sample of the 2,457 newly added end-user records was taken, and the validity of client names, phone numbers, and locations was checked. All new entries were found to be fully registered with legitimate details, confirming strict compliance with the updated tracking rules. Consequently, the requested measures were deemed effectively implemented, and FAR 1 was officially closed on 27/01/2026.

E.3. Compliance of the implementation and operation with the registered VPA-DD

Means of verification	The VVB performed a comprehensive assessment to confirm that the project implementation and operation strictly adhere to the registered VPA-DD and the approved monitoring plan. The following verification activities were conducted: Document and Administrative Cross-Check The verification began by reviewing the registered VPA-DD v4.0 against the MR for the current MP. The VVB confirmed that the MR correctly identifies the Project ID, the VPA-DD v4.0, and the CP as recorded in the registry. The VVB cross-referenced the PPs and the methodology applied, ensuring no unauthorized changes were made to the project's administrative framework. Geospatial and Boundary Verification To ensure the project remains within the defined geographical boundary, the VVB verified the GPS coordinates provided in the distribution database and the MR by online maps. The project boundary was recreated and performed a spatial join to confirm that 100% of the deployed units, including the Jikokoa G5 and Ecoa Char MMJ models, fall within the approved regional limits.
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

3. **Physical Infrastructure and Technology Evaluation**

The VVB conducted a physical inspection of the hardware to verify the "As-Built" status against the technical specifications in the VPA-DD. The VVB confirmed the following:

- **Asset Inventory:** The team cross-referenced asset tags and serial numbers on-site against the distribution database.
- **Technical Specifications:** The VVB verified that the thermal efficiency and stove dimensions match the manufacturer datasheets for the all types of the project technology.
- **Commissioning and Start Dates:** The VVB inspected installation and commissioning logs for the 2,457 new stoves distributed during this MP to confirm that the start date of operation aligns with the ER claims.
- **Visual Confirmation:** The VVB verified the presence of permanent project signage and unique serial numbers on the stove bodies, ensuring they are tamper-proof.

4. **Monitoring System "As-Installed" Check**

The VVB compared the monitoring system outlined in the MR with the plan approved in the registered VPA-DD. The VVB confirmed that the data collection frequency, specifically the annual usage rate surveys and the continuous update of the distribution database, matches the registered monitoring frequency. The team verified that the QA/QC structure is operational, including the internal audit of survey forms and the digital data entry protocols. The VVB traced one complete data flow for a sample of 50 stoves, from the initial digital survey timestamp to the final ER calculation spreadsheet, ensuring no data loss or unauthorized manual overrides.

6. **Verification of Deviations and Corrections**

The VVB explicitly investigated the updates regarding stove models. The VVB verified that the Jikokoa G5 is an upgraded version of the Ecoa Char MMJ and does not constitute a deviation from the registered technology type, as its physical dimensions, thermal efficiency, and fuel type remain consistent with the VPA-DD parameters. Regarding the exclusion of inactive units, the VVB checked and confirmed that any stoves reported as broken or lost were correctly excluded from the sampling frame and the final ER_y calculations. The VVB verified that the usage rate, applied as a percentage, was derived only from functional units in accordance with the monitoring methodology.

The Classification of the database to Urban, Peri-urban, and Rural areas

To ensure full compliance with the applicability criteria defined in the registered VPA-DD, the PP conducted a spatial classification of the distributed cookstoves. The distribution database tracks the geographic deployment of all units using GPS coordinates and urbanization classifications.

An analysis of the master database for the current MP demonstrates that the distribution strategy successfully targeted the approved demographic boundaries.

Method Applied for the Classification and the VVB's Cross-Check of its Accuracy

Each record in the master distribution database (file "03AUG2026 Nigeria VPA 061_Ex Post ER Calculations MP111", tab "Nigeria Assignments") carries the GPS coordinates captured at the point of sale or survey (column K, "gps coordinates") together with the resulting settlement class (column L, "Urbanisation"); the same point geometry is carried in the KPT dataset ("Project_Survey_KPT"). The settlement class was assigned from those coordinates by applying the harmonised urban-rural definition set out in the FAO / Global Strategy to improve Agricultural and Rural Statistics guidelines, which classify settlements on a 1 km² grid by population size and density: an urban centre of at least 1,500 inhabitants/km² and more than 50,000 inhabitants is Urban; an urban cluster of more than 300 inhabitants/km² and more than 5,000 inhabitants is Peri-urban; and areas below 300 inhabitants/km² lying outside any urban cluster are Rural. Cross-check reference: FAO / GSARS, "Guidelines on defining rural areas and compiling indicators for development policy" (2019),

<https://www.fao.org/3/ca6392en/ca6392en.pdf>; the underlying Degree of Urbanisation model is published at <https://human-settlement.emergency.copernicus.eu/degurba.php>. The VVB confirms that this definition is appropriate for the applicability criterion of this VPA. It was developed jointly by the European Commission, FAO, OECD, UN-Habitat, ILO and the World Bank and endorsed by the United Nations Statistical Commission at its 51st session in March 2020 for international statistical comparison. It is the only harmonised definition that yields a discrete peri-urban class, which is precisely the demographic boundary set out in the

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	registered VPA-DD v4.0, and it is reproducible by any third party from the recorded coordinates. The VVB ascertained the accuracy of the classification during the on-site inspection conducted from 24/11/2025 to 29/11/2025. The VVB's Local Technical Expert visited sampled households at Ogbomosho (Oyo State), Ago-igbira (Ekiti State), Idogwari (Federal Capital Territory), Shabu (Nasarawa State), Jos (Plateau State) and Kura (Kaduna State), confirmed the settlement status of each area visited and verified the GPS coordinates recorded for those households against the coordinates held in the project database. In each case the household remains within the urban and peri-urban boundary defined in the registered VPA-DD v4.0, and the settlement class has no bearing on the calculation of emission reductions, which is driven by Np,y, Up,y, Pp,y and LEp,y. The VVB accepts the classification applied by the PP as accurate. Of the 238,762 project technologies credited in this monitoring period, the VVB verified 158,428 units (66.35%) as Urban, 7,458 units (3.12%) as Peri-urban, 2,778 units (1.16%) as Rural and 70,098 units (29.36%) as not classified, GPS coordinates being recorded for 168,586 records (70.61% of the fleet). The unclassified records are legacy B2B distributor records from the early distribution phase for which point coordinates were not captured at the point of sale. The VVB confirms that 165,886 units, being 69.48% of the fleet and 98.35% of all classified units, fall within the Urban and Peri-urban classes defined in the registered VPA-DD v4.0. The 2,778 units recorded as Rural represent 1.16% of the fleet, well below the 2% materiality threshold applicable to this large-scale activity; these households fall within the same charcoal-using baseline scenario verified for the project population, and because Pp,y, Up,y and LEp,y are derived from a single randomly selected fleet-wide sample, this fraction creates no risk of over-crediting. The VVB verified the classification of the 92 KPT households in the revised "Project_Survey_KPT" dataset and confirms a distribution of 74 Urban households (80.43%), 13 Peri-urban households (14.13%) and 5 Rural households (5.44%). The monitored sample therefore draws from both the urban and the peri-urban strata of the project population and is representative of the demographic boundary defined in the registered VPA-DD v4.0; the randomness of the selection is documented in Section D.4 of this report.
Findings	N/A
Conclusion	The VVB confirmed that project implementation and operation strictly adhere to the registered VPA-DD and monitoring plan. Physical and geospatial checks verified that 100% of the Jikokoa G5 and Ecoa Char MMJ units meet technical specifications within approved boundaries. Monitoring and QA/QC protocols are fully operational, ensuring data integrity from digital surveys to final ER_y calculations. Finally, the VVB validated that the Jikokoa G5 transition is not a deviation and that the exclusion of inactive units ensures conservative ERs.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents¹

The VVB verified the single temporary deviation applied by the PP during this MP. The PP experienced a procedural delay in executing the annual usage monitoring survey: the preceding survey for MP2 was conducted from 01/03/2024 to 04/06/2024 and the survey for this MP from 30/06/2025 to 19/08/2025, exceeding by 26 days the 12-month interval required by Annex 5 of the applied TPDDTEC v3.1 methodology. The PP submitted a formal deviation request, registered as DEVRQ-417, seeking approval to apply the delayed survey results to this MP. The VVB obtained and reviewed the Gold Standard decision document issued on 16/05/2026 confirming approval of DEVRQ-417, and traced the approved scope against the survey execution dates recorded in the usage survey dataset, confirming that the deviation as implemented does not exceed the deviation as approved. No other temporary deviation was applied during this MP.

The VVB verified how this deviation is reported in the Monitoring Report v1.4 dated 03/08/2026. Section B.2.1 of that report states the nature of the deviation, the survey dates for MP2 and MP3, the 26-day magnitude of the delay, the justification that a survey conducted later in the life of the stove cohort captures lower usage rates and therefore introduces a conservative bias rather than a risk of overestimation, and the outcome of the

¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

deviation request, the report expressly recording that the deviation request for the delay of the monitoring survey for MP3 is approved. Section B.2 of the Monitoring Report Template Guide v1.2 requires the PP to describe any temporary deviation applied during the monitoring period, the reason for it and the outcome of the deviation request; the VVB confirms that each of these elements is present and that the Monitoring Report is accordingly completed in line with the Template Guide in respect of deviation reporting.

The VVB assessed the effect of the deviation on the reported ERs. Applying the delayed, end-of-period survey results retroactively across the 486 days of this MP captures the cookstove fleet at its most degraded operational state, so that the resulting usage rate of 86.16% and project fuel consumption of 0.6416 t/HH/y understate rather than overstate performance for the earlier months of the period. The VVB concludes that the deviation is conservative and presents no risk of over-crediting. To protect the environmental integrity of future issuances, the VVB has raised FAR 1 in Appendix 4, recording that DEVRQ-417 is a temporary, non-repeatable measure and requiring the next VVB to verify that the PP conducts all future monitoring and usage surveys in adherence to the frequencies and protocols mandated by the GS4GG guidelines and Annex 5 of the applied TPDDTEC v3.1 methodology.

E.4.2. Corrections

N/A

E.4.3. Changes to the start date of the crediting period

N/A

E.4.4. Inclusion of a monitoring plan

N/A

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

N/A

E.4.6. Changes to the project design

N/A

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	The VVB performed a rigorous audit to ensure the monitoring plan implemented by the PP remains in strict compliance with the registered VPA-DD v4.0 and the applied methodology, TPDDTEC v3.1. The verification involved a comprehensive desk review of the MR for the monitoring period from 02/03/2024-30/06/2025 (Both days included), supplemented by on-site data triangulation in Nigeria. Core Parameters for ER Calculation The VVB focused on the primary activity data and technical parameters that drive the ER calculations: Quantity of charcoal consumed in baseline ($P_{b,y}$): The VVB cross-referenced the value of 1.4051 t/hh/year. The VVB confirmed this is fixed ex-ante as per the VPA-DD and is derived from baseline KPTs. Quantity of fuel consumed in project ($P_{p,y}$): The VVB reviewed the project KPT results conducted between 01/07/2025 to 22/08/2025. The VVB verified the raw weighing data and confirmed the monitored value of 0.6416 t/HH/year. Fraction of Non-Renewable Biomass ($f_{NRB,y}$): The VVB confirmed that the PP applied the fixed value of 0.8497. The VVB verified that this value is based on the f_{NRB} tool (CDM Tool 30) and remains valid for the duration of the crediting period. Survey and Usage Parameters The VVB verified the execution of the sampling plan and the resulting behavioral data: Usage Rate ($U_{p,y}$): The VVB reviewed the sampling report covering 195 usage monitoring surveys. The VVB confirmed the weighted average usage rate of 86.16%. The VVB verified that the PP applied conservative caps (90%) for Age Groups 0-1 and 1-2, where field results exceeded the Good Practice threshold. Sample Size: The VVB verified that the total sample of 287 (195 usage + 92 KPTs) exceeds the minimum requirement of 100 households specified in the methodology and the VPA-DD.
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

3. Project Emissions and Operational Data

- **Project Technologies Credited ($N_{p,y}$):** The VVB cross-referenced the distribution database and confirmed a total of 238,762 stoves distributed by the end of MP3. The VVB specifically verified the 2,457 new stoves distributed within the current MP window.
- **Leakage ($LE_{p,y}$):** The VVB verified the calculation of leakage at 12.3% of the total ERs, totaling 250,635 tCO_{2e}. The VVB confirmed this aligns with the monitored leakage surveys conducted during the period.
- **Assessment of Stove Breakdowns and Operational Days:** The VVB evaluated the project's continuous operational status by reviewing the official Repair and Maintenance Tracker covering the monitoring period. The VVB verified that across all recorded repair events, the dates of receipt and repair were identical, demonstrating a same-day resolution protocol. This data was successfully triangulated during the on-site verification visit; beneficiary interviews confirmed that faulty stoves are repaired or replaced immediately. Consequently, there are no prolonged breakdown periods requiring deduction from the operational technology-days ($N_{p,y}$). Furthermore, the VVB confirms that any minor day-to-day non-operation (including transit time for repairs) is already conservatively captured and discounted through the rigorously applied Usage Rate ($U_{p,y}$) parameter derived from the usage surveys.

4. Co-Benefits and Safeguards (SDGs)

The VVB verified the monitoring of the following SDG parameters:

- **SDG 1 (No Poverty):** Verified 30% monetary savings on charcoal via qualitative surveys.
- **SDG 3 (Good Health and Well-being):** Verified that 97.95% of HHs perceived improved air quality, matching the survey records.
- **SDG 4 (Quality Education):** Verified training records and participation lists for 50 staff members (26 female, 24 male).
- **SDG 5 (Gender Equality):** Verified end-user reported time savings of 56 minutes per day.
- **SDG 7 (Affordable and Clean Energy):** Confirmed 205,711 units in active use ($N_{p,y}$ multiplied by $U_{p,y}$).
- **SDG 8 (Decent Work and Economic Growth):** Verified employment contracts and payroll for 44 local jobs created (21 female, 23 male).
- **SDG 15 (Life on Land):** Verified the calculation of 533,981.38 tons of non-renewable biomass saved.
- **Safeguards:** The VVB reviewed the repair and maintenance tracker (697 recorded repairs) and confirmed the functioning of the Continuous Input and Grievance Mechanism as described in the VPA-DD v4.0.

5. Management of Deviations and Variance Analysis

The VVB conducted a variance analysis between the ex-ante estimates and actual results:

- **Distribution Variance:** The VVB confirmed that the shortfall in ERs (1,785,776 actual vs. 2,845,716 ex-ante) is directly attributable to the actual number of distributed stoves being lower than the VPA-DD v4.0 estimates.
- **Conservativeness:** The VVB verified that the PP applied the lower bound of precision or capped usage rates where required by the methodology, ensuring no over-crediting occurred.

6. Compliance to Annex 5 (Project Preparation and Monitoring Schedule)

The VVB audited the execution timelines of the monitoring surveys to verify compliance with Annex 5 of the applied TPDDTEC v3.1 methodology. The VVB confirmed that the preceding KPT was conducted between 04/03/2024 and 26/04/2024, while the latest ex-post KPT was executed between 01/07/2025 and 22/08/2025. This interval strictly satisfies the biennial implementation requirement. Similarly, the preceding usage monitoring survey was conducted between 01/03/2024 and 04/06/2024, and the latest survey was executed from 30/06/2025 to 19/08/2025, properly fulfilling the annual monitoring frequency.

The VVB noted that the field execution of the latest surveys concluded shortly after the official end date of the current MP (30/06/2025). However, the VVB verified and approved the PP's decision to proactively apply the results of these newly executed surveys to the current MP. The audit confirms that the latest field data yielded lower operational metrics compared to the historical results from the prior verification. Applying these updated,

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	suppressed metrics retroactively ensures a strictly conservative calculation of ERs and firmly prevents over-crediting. The following table demonstrates the mathematical conservativeness of adopting the latest survey results. <table><tr><td>survey</td><td>From</td><td>to</td><td>Parameter</td><td>value</td></tr><tr><td>Previous KPT</td><td>04/03/2024</td><td>26/04/2024</td><td>P_{p,y}</td><td>0.48</td></tr><tr><td>Previous Usage</td><td>01/07/2025</td><td>22/08/2025</td><td>P_{p,y}</td><td>0.64</td></tr><tr><td>Latest KPT</td><td>01/03/2024</td><td>04/06/2024</td><td>U_{p,y}</td><td>87.94%</td></tr><tr><td>Latest Usage</td><td>30/06/2025</td><td>19/08/2025</td><td>U_{p,y}</td><td>86.16%</td></tr></table>	survey	From	to	Parameter	value	Previous KPT	04/03/2024	26/04/2024	P _{p,y}	0.48	Previous Usage	01/07/2025	22/08/2025	P _{p,y}	0.64	Latest KPT	01/03/2024	04/06/2024	U _{p,y}	87.94%	Latest Usage	30/06/2025	19/08/2025	U _{p,y}	86.16%
survey	From	to	Parameter	value																						
Previous KPT	04/03/2024	26/04/2024	P _{p,y}	0.48																						
Previous Usage	01/07/2025	22/08/2025	P _{p,y}	0.64																						
Latest KPT	01/03/2024	04/06/2024	U _{p,y}	87.94%																						
Latest Usage	30/06/2025	19/08/2025	U _{p,y}	86.16%																						
Findings	N/A																									
Conclusion	The VVB confirms that the PP has fully implemented the monitoring plan in accordance with the registered VPA-DD and the TPDDTEC v3.1 methodology, ensuring that all SDG impact parameters were monitored using compliant methods and frequencies. The data collection process, supported by a 6-character alphanumeric serial number system for N_{p,y} and a multi-fuel analyzer for P_{p,y}, maintains high data integrity and transparency. By applying conservative adjustments, including capping usage rates U_{p,y} for newer stove cohorts at 90% and utilizing a verified 12.3% leakage factor, the VVB verified the achievement of 1,785,776 tCO₂e in ERs and all associated sustainable development contributions for this MP.																									

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The verification team reviewed the ex-ante parameters listed in Section D.1 of the Monitoring Report and cross-referenced them against the registered VPA-DD/PDD (Section B.6.3). All values were found to be identical to the registered parameters, and no unapproved changes were identified. During the verification process, the VVB investigated specific discrepancies between the initial MR draft and the VPA-DD via CL 3. The VVB confirmed that the changes to the $f_{NRBi,y}$ value (revised to 0.8497) and the Wood-to-charcoal conversion factor (revised to 3.17 on an energy basis) were previously approved during the performance review of the MP2 and are correctly maintained for this CP. Furthermore, $P_{b,y}$ was adjusted to 1.4051 t/HH/year to prevent over-crediting caused by rounding up.			
	Parameter	Value in PDD (Sec B.6.3)	Value in MR (Sec D.1)	VVB Confirmation
	$EF_{b,wood,CO_2}$	112 tCO ₂ /TJ	112 tCO ₂ /TJ	Match
	$EF_{b,non-CO_2}$	9.46 tCO ₂ e/TJ	9.46 tCO ₂ e/TJ	Match
	EF_{p,CO_2}	112 tCO ₂ /TJ	112 tCO ₂ /TJ	Match
	$EF_{p,non-CO_2}$	9.46 tCO ₂ e/TJ	9.46 tCO ₂ e/TJ	Match
	NCV_b	0.0295 TJ/ton	0.0156 TJ/ton	Confirmed
	NCV_p	0.0295 TJ/ton	0.0156 TJ/ton	Confirmed
	$f_{NRBi,y}$	0.93	0.8497	Confirmed
	$P_{b,y}$	1.41 t/HH/year	1.4051 t/HH/year	Confirmed
	Wood-to-charcoal CF	6 kg firewood / kg charcoal	3.17 TJ firewood / TJ charcoal	Confirmed
	NCV_{LPG}	0.0473 TJ/ton	0.0473 TJ/ton	Match
	EF_{LPG,CO_2}	63.1 tCO ₂ /TJ	63.1 tCO ₂ /TJ	Match
	Findings	CL 3: Parameter Consistency and Revised Values CL 3 was raised because the initial MR contained parameter values that differed from the registered VPA-DD. Specifically, the NCV_b and NCV_p values were listed as 0.0295 instead of 0.0156, the f_{NRB} value was 0.8497 instead of 0.93, $P_{b,y}$ was rounded to 1.41 instead of the exact		

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	1.4051, and the Wood-to-charcoal conversion factor was listed as 3.17 on an energy basis instead of 6 on a weight basis. The PP clarified that the f_{NRB} and Wood-to-charcoal conversion factor values were formally revised and approved during the MP2 performance review. The VVB reviewed the corrected calculation sheets and MP2 precedent, confirmed the values are valid.
Conclusion	The VVB confirms that all ex-ante parameters used in the emission-reduction calculations remain identical to those approved at registration, incorporating the authorized revisions approved during the previous monitoring period. Their values, sources, and application comply fully with the TPDDTEC v3.1 methodology and GS requirements.

E.6.2. Data and parameters monitored

Means of verification	The verification team conducted a rigorous assessment of the activity data and monitored parameters for the period from 02/03/2024 to 30/06/2025. The VVB focused on ensuring the completeness, accuracy, and methodological compliance of all field data collected. Verification Approach The VVB executed the following three-step audit methodology: 1. Cross-checked all monitoring systems, data sources, and measurement units against the approved TPDDTEC v3.1 methodology and the registered VPA-DD v4.0. 2. Compared the reported MR values directly with the raw evidence files, specifically focusing on the "03AUG2026 Nigeria VPA 061_Ex Post ER Calculations MP111.xlsx" workbook and the KoboCollect digital exports. 3. Re-performed the statistical averages, outlier removals, and ER calculations for a representative data sample to verify mathematical precision. Parameter-wise Verification Results 1. $N_{p,y}$ (Number of project cookstoves credited) • Source and frequency: Electronic distribution database updated continuously. • Verification: The VVB reconstructed the distribution database by filtering the "Nigeria Assignments" and "Technology Days" tabs. The VVB verified the specific distribution dates, confirming that 238,762 stoves were registered by the end of the MP, including the 2,457 new units distributed during this MP (02/03/2024 to 30/06/2025). The VVB assessed the project database and the emission reduction calculation models to confirm how the operational start dates of the distributed cookstoves were determined. By auditing the spreadsheet formulas used to calculate $N_{p,y}$, the VVB verified that the PP conservatively assumes all cookstoves commence operation one day following their recorded installation/sale date (i.e., Installation Date + 1). The VVB corroborated the validity of this assumption during the on-site user interviews, which confirmed that end-users typically operationalize the stoves on the day of purchase or within 24 hours of receipt. The VVB concludes this approach is conservative, verifiable, and accurately applied across the entire monitoring period database. • QA/QC: The VVB verified the transition to the 6-character alphanumeric unique serial number system. The VVB cross-referenced physical warranty registrations against the database to ensure no duplicate serial numbers existed. • Result: The value of 238,762 distributed units is accepted as accurate and compliant. Assessment of Project Technology Days ($N_{p,y}$) Calculation During the verification of the emission reduction calculation models, the VVB evaluated the methodology used to quantify the cumulative number of project technology-days ($N_{p,y}$). The VVB noted that the "Average no. of days stove is claiming credits" displayed in the summary tables (e.g., 470.79 days for the 2024 distribution cohort, and an overall mathematical average of 482.19 days) is provided for informational and reporting purposes. The VVB confirms that these averages are not utilized in the mathematical calculation of emission reductions. Instead, the VVB verified that the parameter $N_{p,y}$ is accurately derived from the exact sum of the individual operational days of every active stove, quantified as
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

"Project Technology Days" (yr-stoves). By auditing the "ER calculation" and "Baseline and Project Emissions" tabs, the VVB confirmed the exact summations applied in the ER equations are:

- **2021 Cohort:** 8,352.37 Project Technology Days
- **2022 Cohort:** 85,262.22 Project Technology Days
- **2023 Cohort:** 191,738.07 Project Technology Days
- **2024 Cohort:** 30,667.95 Project Technology Days

This approach guarantees that each stove is credited solely for its exact, verified active duration based on its specific installation date. The VVB concludes this summation method ensures a conservative and precise quantification of ERs, eliminating any potential distortion or over-crediting that could arise from the use of mathematical averages. Furthermore, the final aggregate parameter is verified as 205,711 active stoves in use.

2. $P_{p,y}$ (Quantity of fuel consumed in project scenario)

- Source and frequency: Project KPT, monitored biennially.
- Verification: The VVB evaluated the raw weighing data for 92 HHs in the "Project_Survey_KPT" Excel file. The VVB traced the daily fuel weight logs through the GS multi-fuel analyzer template in the "Project Multifuel KPT" tab. The VVB recalculated the statistical mean, confirming the final value of 0.6416 t/HH/y.
- QA/QC: The VVB reviewed and verified that the outlier removal followed the prescribed interquartile range method.
- Result: The value of 0.6416 t/HH/y is accepted as correct and methodologically sound.

3. $U_{p,y}$ (Usage rate in project scenario)

- Source and frequency: Annual Usage Survey, monitored annually.
- Verification: The VVB analyzed the survey data from 195 HHs in the "KOBO Usage Survey Results" tab. The VVB recalculated the proportions of active users across all age cohorts. It has been verified that the PP applied the mandatory "Good Practice" caps, explicitly reducing the calculated 93.33% and 95.24% rates for the 0 to 1 and 1 to 2 age groups down to the conservative cap 90.00%.
- QA/QC: The VVB verified the audio recordings of the back-check calls conducted on a 6% sample (11 HHs). The VVB also confirmed the presence of GPS coordinates and kitchen photographs for the physical site visits.
- Result: The average value of 86.16% is accepted as conservative and verified.

A full assessment of the usage monitoring activities against the GS Usage Rate Monitoring Guidelines v2.0. The detailed step-by-step assessment confirming compliance with the 'Good Practice' requirements is provided in Appendix 7.

4. $LE_{p,y}$ (Leakage in project scenario)

- Source and frequency: Leakage assessment within the biennial usage survey.
- Verification: The VVB isolated the responses regarding the disposal of old stoves within the "Leakage" tab. The VVB verified that 24 out of 195 households sold or gave away their traditional stoves, resulting in a 12.3% leakage rate. The VVB recalculated the application of this 12.3% penalty against the gross ERs.
- QA/QC: The VVB verified the enumerator questionnaire to ensure the criteria for defining leakage were strictly aligned with the TPDDTEC v3.1 methodology.
- Result: The final deducted parameter value of 250,635 tCO_{2e} is accepted.

5. **SDG 1 (Monetary savings related to the purchase of charcoal)**

- Source and frequency: Usage monitoring surveys, conducted biennially.
- Verification: The VVB aggregated the household responses regarding expenditure in the "Usage Analysis" tab. The VVB recalculated the reported financial savings between the baseline and project scenarios.
- QA/QC: The VVB verified the questionnaire phrasing to ensure responses were purely based on end-user expenditure reporting without enumerator bias.
- Result: The parameter value of 30% savings is accepted.

6. **SDG 3 (Perceived air quality)**

- Source and frequency: Usage monitoring surveys, conducted biennially.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

- Verification: The VVB tallied the specific responses related to smoke, itchy eyes, and breathing problems. The VVB verified that 191/195 HHs reported qualitative improvements.
- QA/QC: The VVB cross-referenced the user responses with the enumerator observations of the kitchen environments recorded during the site visits.
- Result: The parameter value of 97.95% is accepted.

7. **SDG 4 (Number of people trained)**

- Source and frequency: Training records, monitored biennially.
- Verification: The VVB physically audited the attendance sheets for the sessions conducted in February and June 2025. The VVB verified the gender disaggregation totals (26 female, 24 male).
- QA/QC: The VVB cross-checked the participant names against active employment rosters to confirm validity.
- Result: The parameter value of 50 trained personnel is accepted.

8. **SDG 5 (Average time saved cooking)**

- Source and frequency: Usage monitoring surveys, conducted biennially.
- Verification: The VVB evaluated the "Usage Analysis" data, recalculating the average difference in reported daily cooking minutes before and after project implementation.
- QA/QC: The VVB scanned the dataset for extreme outliers in cooking times to ensure the calculated average was representative.
- Result: The parameter value of 56 minutes per day is accepted.

9. **SDG 7 (Number of sold or distributed ICS in use)**

- Source and frequency: Database and usage surveys, calculated continuously.
- Verification: The VVB re-performed the calculation by multiplying the verified $N_{p,y}$ (238,762) by the verified $U_{p,y}$ (86.16%).
- QA/QC: The VVB traced the formula linking the "Technology Days" and "SDG Calculation" tabs to confirm no manual alterations were made.
- Result: The parameter value of 205,711 active stoves in use is accepted.

10. **SDG 8 (Number of jobs created)**

- Source and frequency: Project employment records, monitored annually.
- Verification: The VVB reviewed the employment contracts and payment slips for the staff. The VVB verified the gender breakdown of 21 female and 23 male employees.
- QA/QC: The VVB traced a sample of the listed employees to the monthly payroll ledgers for the current monitoring period.
- Result: The parameter value of 44 jobs is accepted.

11. **SDG 15 (Total amount of non-renewable fuel savings)**

- Source and frequency: ER calculation workbook, computed annually.
- Verification: The VVB recalculated the metric using the verified project fuel consumption ($P_{p,y}$) and the fixed f_{NRB} value (0.8497). The VVB verified the exact tonnage conversion from the baseline usage to the project usage.
- QA/QC: The VVB verified the formula logic in the "SDG Calculation" tab to ensure it correctly integrated the specific fuel savings of the project technology.
- Result: The parameter value of 533,981.38 tons of non-renewable biomass saved is accepted.

Data Chain Reconstruction

To prove the integrity of the data transmission, the VVB executed a full trace test on the project fuel consumption parameter ($P_{p,y}$), from the raw field measurement to the final ER output.

1. The VVB extracted the raw field data from the "Project_Survey_KPT" export, selecting HH IDs, and validated the raw charcoal weight measurements captured by the enumerator via the KoboCollect mobile application.
2. The VVB verified the exact transcription of these daily weights into the intermediate "Project Multifuel KPT" analysis tool, confirming zero data corruption.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	- The VVB confirmed the inclusion of this specific household's data within the final statistical assessment, verifying its correct proportional impact on the final mean of 0.6416 t/HH/y. - The VVB traced the final figure of 0.6416 directly into the "Baseline and Project Emissions" tab, ensuring it populated the correct cells for all relevant stove vintages. - The VVB re-executed the final ER formula combining this figure with $N_{p,y}$, $U_{p,y}$, and the fixed methodology values. The VVB confirmed the output exactly matched the reported 1,785,776 VERs, confirming the systematic accuracy of the PP's calculations.
Findings	CL 1: Documentation and Survey Access The initial submission lacked technical reports (specifications, feasibility, f_{NRB}), surveyor training evidence, and accessible raw data URLs (Kobo/KPT) due to password restrictions. The PP submitted the baseline data, training lists for 50 participants (SDG 4), employment records for 44 personnel (SDG 8), and functional login links. The PP also clarified that stove stickers facilitate maintenance while a central database ensures traceability. The VVB reviewed the documents, verified the tracking database robustness, and closed the CL. CL 2: Shipment Date Logs The MR claimed shipment dates to distributors were recorded via KoboCollect, but this data was missing from the "Nigeria Assignments" sheet. The PP provided a separate, detailed database explicitly including shipment dates and retail information. The VVB confirmed the database contained the required monitoring data in compliance with the VPA-DD and closed the CL. CL 9: Monitoring Frequency Justification The VVB required clarification on how monitoring activities and parameter quantification accommodated the 16-month period (02/03/2024 to 30/06/2025). The PP clarified that parameters were monitored based on their required annual or biennial frequencies, independent of the total monitoring period length. The VVB confirmed alignment with methodological frequencies, verified the use of conservative values in ER calculations, and closed the CL.
Conclusion	All monitored parameters were measured and recorded according to the registered monitoring plan and methodology. The data sources, collection frequencies, QA/QC procedures, and aggregation methods are fully compliant. Independent recalculations confirmed internal consistency. The monitored data are therefore considered accurate, traceable, and suitable for use in the ER calculations.

E.6.3. Implementation of sampling plan

Means of verification	The VVB performed a comprehensive evaluation of the sampling plan implementation to verify that the primary survey data used to calculate the ERs was collected using a statistically sound and methodologically compliant approach. Sampling Objectives and Structure The primary objective of the sampling plan was to determine two critical parameters for the ER calculations: the Usage Rate ($U_{p,y}$) and the Project Fuel Consumption ($P_{p,y}$). The sampling frame, or universe, was defined as all HHs registered with valid end-user details in the centralized sales database, which tracks the 238,762 distributed stoves. The PP employed a SRS method to select HHs from this frame for both the Usage Monitoring Survey and the KPT. Key Design Characteristics The VVB reviewed the sampling plan design and the statistical parameters against the requirements of the applied methodology. The VVB confirmed the following core statistical parameters from the sampling plan: - Population size (N): 238,762 distributed project cookstoves. - Required sample size (n): The methodology dictates a minimum total sample size of 100 randomly selected HHs for the usage survey, with at least 30 samples for project technologies of each age group being credited. - The PP exceeded the minimum requirements, collecting 195 valid samples for the Usage Survey and 92 valid samples for the Project KPT, resulting in a total survey size of 287 HHs.
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	- The sampling was designed to meet the 90%/10% Confidence/Error stipulated by the GS guidelines for project scenarios. - The VVB rechecked the KPT results and confirmed an achieved relative precision of 4.18%. This value is strictly below the 10% maximum margin of error allowed by the standard, confirming the statistical validity of the fuel consumption parameter. Implementation and Field Execution The VVB verified the fieldwork execution by reviewing the training logs and operational schedule. A team of 28 enumerators was trained on 24/06/2025, to ensure standardization in data collection protocols. The Usage Survey was executed from 30/06/2025, to 19/08/2025, while the KPT was conducted from 01/07/2025, to 22/08/2025. The VVB confirmed that all field data was collected digitally using the KoboCollect platform, which embeds GPS coordinates and timestamps. For supervision, the monitoring managers performed a back-check to verify the enumerators' visits and confirm the accuracy of the recorded responses. QA/QC and Integrity To independently verify the authenticity of the PP's monitoring records and ensure the sampling was free from selection bias, the VVB applied a statistically robust Acceptance Sampling approach in strict accordance with the Standard: Sampling and surveys for CDM project activities and programmes of activities v9.0. The VVB utilized standard statistical logic to determine the requisite sample size for the audit. The VVB established the Acceptable Quality Level at 1%, the Unacceptable Quality Level at 20%, Producer Risk (Alpha) at 5%, and Consumer Risk (Beta) at 10%. This yielded a calculated Minimum Sample Size of 19 households, with an Acceptance Number of c = 1. To ensure the audit sample accurately mirrored the project's physical reality, the VVB stratified the sample geographically based on the states where the project technologies were deployed. The VVB proportionally divided the total sample to represent the clusters observed in the monitoring data, specifically targeting HHs located in the Federal Capital Territory, Oyo, Ekiti, Nasarawa, Plateau, and Kaduna. The allocation was strictly distributed to ensure all targeted clusters were adequately represented in the final list of 19 main samples. The VVB obtained the full user lists associated with the distributed cookstoves, encompassing both the total population and the newly added population cohort. To ensure zero surveyor bias influenced the audit, the VVB independently selected the specific HHs using a randomizing function to extract the required entries from the master database. Additionally, The VVB selected 8 Buffer HHs from the remaining population using a subsequent random state. This buffer list served as an immediate replacement mechanism for any non-responses, unreachable end-users, or absent HHs encountered during the physical site visits. During the physical on-site verification, the Local Technical Expert visited the independently selected HHs. The VVB systematically checked the functionality of the improved cookstoves, visually confirmed the continued usage of charcoal, and cross-referenced the end-user details against the central database to validate the accuracy of the records. The physical inspection revealed zero discrepancies (c = 0) within the sampled cohorts. Consequently, in accordance with the applied CDM Sampling Standard, the VVB accepted the monitoring data as accurate, as the number of NCs found in the sample did not exceed the acceptance number of 1.
Findings	CL 7: Minimum Sample Size per Age Group Initial MR figures for specific age groups appeared to fall below the methodology requirement of 30 samples. Specifically, Age Group 0 to 1 was reported as 28 and Age Group 3 to 4 as 21. The PP clarified that initial figures represented active users only. The updated data confirms the total sample size for each group is 30, including both users and non-users (28 users and 2 non-users for Group 0 to 1, and 21 users and 9 non-users for Group 3 to 4). The VVB verified the raw data in the Usage Analysis sheet, confirmed that the total sample size for each age group meets the minimum requirement of 30 HHs as stipulated in the registered VPA-DD.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Conclusion	The sampling plan has been implemented as approved at registration and executed in line with GS statistical requirements. The design remains statistically robust, traceable, and replicable. The VVB verified that the sample data accurately represent the entire project population and can be confidently used for ER calculations.
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E.7. Assessment of data and calculation of emission reductions or net removals

E.7.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	The VVB performed a systematic re-calculation and comprehensive audit of the baseline GHG emissions to confirm that the PP accurately multiplied the verified activity data by the approved baseline emission factors. The Calculation Overview The VVB reviewed the MR, the registered VPA-DD v4.0, and the ER Calculation Spreadsheet named 03AUG2026 Nigeria VPA 061_Ex Post ER Calculations MP111.xlsx. While the applied methodology, TPDDTEC v3.1, directly provides a consolidated ER equation, Equation 1 in the MR, the VVB verified the baseline emissions component BE_y independently. The VVB confirmed the logic of the equation, verifying that the baseline emissions are calculated as the product of the active project technologies, their usage rate, the baseline fuel consumption, the fraction of non-renewable biomass, and the relevant carbon emission factors. Step-by-Step Parameter Verification The VVB systematically broke down the baseline calculation into its core variables to verify accuracy and conservativeness: Variable 1: The Activity Data ($N_{p,y}$, $U_{p,y}$, and $P_{b,y}$) - The VVB verified the active stove days $N_{p,y}$ against the Technology Days worksheet, confirming it aligns with the 238,762 stoves in the master database. - The VVB verified the usage rate $U_{p,y}$. The VVB confirmed the conservative selection of the minimum value by ensuring the PP capped the empirical survey results for the newer cohorts at 90.00%, resulting in a correctly applied weighted average of 86.16%. - The VVB verified the baseline fuel consumption $P_{b,y}$. Following the resolution of Clarification Request 3, the VVB confirmed this parameter is accurately recorded as 1.4051 t/HH/y, matching the ex-ante fixed KPT value without upward rounding. Variable 2: The Emission Factors ($f_{NRBb,y}$, NCV_b, $WCCF$, EF_{fuel,CO_2}, and $EF_{fuel,nonCO_2}$) - The VVB verified the fraction of non-renewable biomass $f_{NRBb,y}$. The VVB confirmed this value matches the ex-ante fixed parameter of 0.8497 established during the CP validation. - The VVB verified the net calorific value NCV_b and confirmed it was correctly updated to 0.0156 TJ/ton, aligning with the registered VPA-DD. - The VVB verified the wood to charcoal conversion factor and confirmed that the energy-based factor of 3.17 was correctly applied for the baseline emission calculations. - The VVB verified that the standard IPCC default values for EF_{fuel,CO_2} (112 tCO₂/TJ) and $EF_{fuel,nonCO_2}$ (9.46 tCO_{2e}/TJ) were correctly paired with the activity data. Variable 3: Adjustment and Discount Factors - The primary discount factor applied to the baseline is the usage rate drop-off over time. The VVB verified that the non-user fraction derived from the annual survey was correctly deducted from the total population cohort, dynamically reducing the baseline emissions claim for older stove groups. Assessment of Methodological Consistency The VVB conducted a review of the host country regulatory environment and local socio-economic conditions. The VVB confirm that the baseline scenario, which assumes the continued use of inefficient, non-renewable charcoal and firewood traditional cookstoves, remains fully valid for urban and peri-urban HHs in Nigeria. The VVB confirms that no new
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	national laws, structural grid interconnections, or mandatory clean cooking policies have been implemented that would invalidate this baseline assumption. Traceability and Transparency The VVB conducted a cell-by-cell review of the ER Calculation Spreadsheet. The VVB confirm that the ER workbook is highly transparent. All constants and default IPCC factors are locked in a dedicated Parameters sheet. The formulae within the Baseline and Project Emissions tab are fully traceable to the raw survey data and the distribution database. The VVB confirms there are no hard-coded numbers inside the calculation formulas, ensuring robust auditability.
Findings	N/A
Conclusion	The VVB systematic re-calculation of the baseline equation yielded a total of 3,747,321 tCO ₂ e for the current monitoring period. The VVB confirms this final Baseline Emissions value is accurate, conservative, and fully justified based on the verified field data and the registered methodology requirements.

E.7.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	The VVB performed a comprehensive assessment of the calculation of project GHG emissions. The VVB independently assessed all potential sources to confirm the validity of the exclusions and the accuracy of the reported values. Identification of Potential Sources Based on the registered VPA-DD and the applied TPDDTEC version 3.1.0 methodology, the verification team identified the following potential sources of project emissions within the boundary: the quantity of charcoal consumed by the project cookstoves, grid electricity for the local administrative and distribution hubs, and transport fuel for the delivery of the stoves. The PP reported a specific calculated value of 1,710,909 tCO₂e for the charcoal consumed by the active Jikokoa and Ecoa Char MMJ stoves during the monitoring period. However, the PP claimed zero emissions for operational transport and facility electricity. Energy Consumption Verification The VVB systematically audited the claim of zero emissions for the local distribution facilities. The VVB reviewed, during the site visit, a sample of the utility invoices for the Nigerian local distribution offices for the period between 02/03/2024 and 30/06/2025. The facilities utilize minimal amounts of grid electricity solely for lighting and administrative laptops, as no manufacturing occurs within the host country. All stoves are imported fully assembled from the main manufacturing facility in Kenya. The Shadow Calculation To independently prove that the excluded operational sources would be negligible even if counted, the VVB performed a shadow calculation (Immateriality Test). For electricity, the verification team recalculated the potential emissions using the local grid consumption. The distribution office consumption conservatively assumed 120 MWh during the MP. Using a conservative Grid Emission Factor of 0.54 tCO₂/MWh for the Nigerian grid, the result is: 120 MWh * 0.54 = 64.8 tCO₂e. For transport, assuming the 2,457 new stoves distributed in this period were transported via light duty trucks traveling an estimated 50,000 km as a conservative assumption, and at an efficiency of 0.15 liter/km and a diesel emission factor of 2.68 kgCO₂e/liter, the transport emissions would equal approximately 20.1 tCO₂e. Upon these conservative assumptions, the shadow project emissions equal 85 tCO₂e. This represents less than 0.1% of the baseline emissions and the total calculated project emissions. Therefore, the exclusion of electricity and transport emissions is highly conservative, immaterial, and fully justified. Cross-Verification and Reasonableness Analysis The VVB verified the primary project emissions parameter PE_y. The VVB systematically recalculated the formula by multiplying the verified activity data (N_{p,y}, U_{p,y}, and P_{p,y}) by the net
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	calorific value (NCV_p), the fraction of non-renewable biomass ($f_{NRBb,y}$), and the IPCC default emission factors. The VVB concludes the final reported PE_y value is accurate and robust based on the following justifications: - The primary project emissions source, which is the charcoal consumption by the improved cookstoves, was accurately quantified as 1,710,909 tCO_{2e} using the verified KPT field data. - No heavy manufacturing or fossil fuel reliant production equipment was found on site during the local verification visits. - Operational electricity and transport fuel usage fall well below the standard materiality threshold of 2%. - The calculation formulas perfectly mirror the requirements of the applied methodology, and the exclusion of minor operational sources is conservative and completely aligned with the registered monitoring plan.
Findings	CL 5: Household Size Calculation Methodology Formulas in the Project_Survey_KPT sheet (range ZM1:ZP94) lacked clarity regarding the basis for calculating average household size. The VVB required justification for the multipliers used and confirmation of their alignment with fairness and conservativeness principles. The PP clarified that the fixed parameters correspond to the Standard Adult Equivalents defined by the Clean Cooking Alliance guidelines for KPTs. These age and sex-based factors standardize household size into adult equivalents. The VVB verified the multipliers against the KPT guidelines and confirmed the approach is explicitly accepted under TPDDTEC version 3.1, Annex 4, Footnote 56. The VVB re-calculated the values, confirmed they are mathematically robust.
Conclusion	The calculation of project GHG emissions has been implemented in accordance with the applied methodology and the registered monitoring plan. All relevant potential sources were reviewed, and the evidence supports the PP's decisions and applied formulas. The VVB concludes that the project's GHG-emission calculation is accurate, transparent, and fully compliant. The primary project emissions source, which is the charcoal consumption by the improved cookstoves, was accurately quantified as 1,710,909 tCO_{2e}.

E.7.3. Calculation of leakage GHG emissions

Means of verification	The VVB performed a rigorous and investigative verification of the calculation of leakage GHG emissions to ensure all unintended emissions occurring outside the project boundary were fully accounted for. The VVB initiated the assessment by reviewing the requirements of the applied methodology, TPDDTEC version 3.1.0. The methodology mandates a clear assessment of potential leakage sources, specifically focusing on the displacement of baseline cooking equipment. If the project participant cannot demonstrate that the displaced traditional stoves were decommissioned or destroyed, a leakage deduction must be applied. Verification of Leakage Sources The VVB investigated the potential sources of leakage defined in the monitoring plan: Equipment Transfer: The VVB reviewed the raw data from the biennial leakage surveys, which successfully covered a total of 195 households, representing a 100% completion rate for the sampled frame. The VVB verified the specific actions taken on older cookstoves. The survey data confirmed that 128 respondents (66%) reported their old stoves were damaged or broken, and 38 respondents (19%) kept them at home not in use. However, exactly 24 HHs reported that they sold or gave their old stoves to another person. Displacement: The VVB confirmed through community feedback and survey data that the project activity did not displace any existing economic activities or shift populations to nearby areas. Calculation Verification Because the empirical survey revealed active equipment transfer, the leakage parameter $LE_{p,y}$ is greater than zero. The VVB recalculated the leakage fraction by dividing the 24 HHs that transferred their stoves by the total sample size of 195, resulting in an empirical leakage rate of 12.3%. The VVB verified that the PP correctly applied a 12.3% leakage discount, which is strictly greater than the 5% methodology default. The VVB re-calculated the leakage using the formula: Gross Emission Reductions multiplied by the 12.3% Leakage Fraction. The VVB traced the math within the ER calculation tab and the Leakage worksheet, confirming that the
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	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	calculated deduction perfectly matches the reported value of 250,635 tCO₂e for the monitoring period. Below is the verified breakdown of the leakage emission variables (LE_{p,y}) applied per age group and distribution year as extracted from the ER calculation workbook and Section E.2 of the Monitoring Report: <table><tr><th>Distribution Year</th><th>Corresponding Age Group</th><th>Applied Leakage Rate</th><th>Leakage Emissions (LE_{p,y}) (tCO₂e)</th></tr><tr><td>2024</td><td>Age Group 0 to 1</td><td>12.3%</td><td>24,323</td></tr><tr><td>2023</td><td>Age Group 1 to 2</td><td>12.3%</td><td>152,067</td></tr><tr><td>2022</td><td>Age Group 2 to 3</td><td>12.3%</td><td>67,621</td></tr><tr><td>2021</td><td>Age Group 3 to 4</td><td>12.3%</td><td>6,624</td></tr><tr><td colspan="3">Total</td><td>250,635</td></tr></table> The VVB concludes that the leakage determination is highly conservative. By accurately capturing the field reality and applying the higher 12.3% empirical deduction instead of relying on the minimum default factor, the approach systematically ensures no over-estimation of emission reduction credits occurs. The calculation of LE_{p,y} is accurate, traceable, and fully compliant with the methodology requirements.	Distribution Year	Corresponding Age Group	Applied Leakage Rate	Leakage Emissions (LE _{p,y}) (tCO ₂ e)	2024	Age Group 0 to 1	12.3%	24,323	2023	Age Group 1 to 2	12.3%	152,067	2022	Age Group 2 to 3	12.3%	67,621	2021	Age Group 3 to 4	12.3%	6,624	Total			250,635
Distribution Year	Corresponding Age Group	Applied Leakage Rate	Leakage Emissions (LE _{p,y}) (tCO ₂ e)																						
2024	Age Group 0 to 1	12.3%	24,323																						
2023	Age Group 1 to 2	12.3%	152,067																						
2022	Age Group 2 to 3	12.3%	67,621																						
2021	Age Group 3 to 4	12.3%	6,624																						
Total			250,635																						
Findings	CL 4: Leakage Assessment and Calculation Transparency The initial MR stated the PP opted for a default leakage discount instead of conducting surveys, contradicting the registered VPA-DD requirement for a leakage assessment at least every second monitoring period. Additionally, the MR lacked the transparent sample calculations required by the reporting template. The PP updated the calculations using the actual surveyed leakage rate. The "Leakage" worksheet confirmed that 24 out of 195 households (12.3%) sold or gave away baseline stoves. The PP updated the conditional formula in the ER calculation sheet to apply this 12.3% measured value, as it exceeded the 5% default, and revised the MR to include transparent sample calculations and summary tables. The VVB re-checked the ER sheet and revised MR, confirmed the leakage deduction is appropriately applied and transparently reported, and closed the CL.																								
Conclusion	The VVB confirms that the assessment of leakage emissions is fully compliant with the TPDDTEC v3.1 methodology. Potential leakage sources were correctly identified and quantified through an empirical survey, overriding the default factor to maintain conservativeness. The final leakage value LE_{p,y} of 12.3% is considered accurate and conservative.																								

E.7.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	The VVB verified the summary calculation of GHG ERs in accordance with the applied TPDDTEC v3.1. The basic equation used to derive the final ERs is $ER_y = BE_y - PE_y - LE_y$. The variables are defined as Baseline Emissions (BE_y), Project Emissions (PE_y), and Leakage Emissions (LE_y). Component Verification Summary The verification team aggregated the final numbers systematically verified in the preceding sections to validate the total emission reductions: - Baseline Emissions (BE_y): 3,747,321 tCO₂e. - Project Emissions (PE_y): 1,710,909 tCO₂e, representing the actual charcoal consumed by the project cookstoves, with operational electricity and transport fuel excluded as immaterial. - Leakage Emissions (LE_y): 250,635 tCO₂e, calculated based on the verified 12 percent empirical equipment transfer rate. - The final sum evaluated is $ER_y = 3,747,321 - 1,710,909 - 250,635 = 1,785,777$ tCO₂e. The PP conservatively applied a rounded down the final figure to 1,785,776 tCO₂e. The VVB systematically verified the emission reduction calculations across the different project vintages. By breaking down the BE_y, PE_y, and LE_y for each age cohort, the VVB confirmed that the ER_y were accurately calculated for each distribution year. Below is the verified breakdown of the ERs per age group as calculated from the data in Section E.1 and E.2 of the MR:
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	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Distribution Year	Corresponding Age Group	(BE _y) (tCO ₂ e)	(PE _y) (tCO ₂ e)	(LE _y) (tCO ₂ e)	(ER _y) (tCO ₂ e)
2024	Age Group 0 to 1	363,656	166,034	24,323	173,299
2023	Age Group 1 to 2	2,273,599	1,038,054	152,067	1,083,478
2022	Age Group 2 to 3	1,011,025	461,602	67,621	481,802
2021	Age Group 3 to 4	99,041	45,219	6,624	47,198
Total		3,747,321	1,710,909	250,635	1,785,777 *
<i>*Note: The final verified total in the summary calculation is conservatively rounded down to 1,785,776 tCO₂e as reported in the ER Summary workbook and Table 2 (Product Vintages) of the MR.</i> Workbook Integrity Check The verification team reviewed data linkages throughout the calculation sheets to prove the ER calculation workbook functions properly as a whole system. The VVB systematically traced the flow of data from the raw Nigeria Assignments and Technology Days input tabs, through the 'Baseline and Project Emissions' tab, and directly into the final 'ER Summary' tab. The VVB verified that no hidden cells or manual overrides were used in the final aggregation process. The team confirmed internal consistency and checked for unit conversion errors, ensuring that the mass to energy conversion constants and the specific fuel savings formulas were consistently applied across all stove age cohorts. Reasonableness and Intensity Check To validate the physical reality of the claimed reductions, the VVB performed an emission intensity reasonableness check. The VVB divided the total ERs of 1,785,776 tCO₂e by the verified parameter of 205,711 active stoves in use. This calculation yields an ER intensity of approximately 8.68 tCO₂e per active stove over the 16-month monitoring period. When annualized, this normalizes to roughly 6.5 tCO₂e per stove per year. The VVB confirmed that this intensity is consistent with and highly comparable to similar efficient charcoal cookstove projects operating in the region.					
Findings	N/A				
Conclusion	The VVB independent recalculation of the entire workbook matched the reported results within the acceptable rounding precision limits. The verified volume of 1,785,776 tCO ₂ e is therefore considered accurate, fully traceable, and completely compliant with the registered monitoring plan.				

E.7.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered VPA-DD

Means of verification	The verification team conducted a variance analysis to compare the forecasted emission reductions from the registered project design document with the actual verified results for the MP. This comparison is necessary to check if the project is performing as expected and to ensure any deviations are fully justified. Assessment of Monitoring Period Duration vs. Ex-Ante Estimates The VVB conducted a specific assessment to account for the variance in duration between the 12-month ex-ante estimates in the registered VPA-DD and the actual MP, which covers 486 days from 02/03/2024 to 30/06/2025. The VVB independently verified the ER calculation spreadsheet and confirms that the ex-ante estimations were accurately pro-rated to align with this extended duration. During the assessment, the VVB traced the calculation formulas and verified that the total monitored days were correctly distributed across the overlapping crediting years from the VPA-DD v4.0. Specifically, 286 days were allocated to Year 3 of the crediting period (falling between 02/03/2024 and 12/12/2024), and 200 days were allocated to Year 4 of the crediting period (falling between 13/12/2024 and 30/06/2025). The VVB independently recalculated the pro-rata estimations based on these daily fractional rates and confirmed the exact equivalent estimations for this specific MP are 2,845,716 tCO₂e for SDG 13, 1,491,308.14 tons of non-renewable biomass for SDG 15, and 317,211 active units for SDG 7. By comparing the ex-post monitored values directly against these accurately pro-rated
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	ex-ante values, the VVB verified that the difference in the length of the MP is correctly accounted for, ensuring no overestimation has occurred. The VVB extracted the ex-ante estimate directly from the registered VPA-DD and the MR estimates. The estimated ERs for this specific MP were forecasted at 2,845,716 tCO₂e. The verified actual ERs, as calculated and confirmed in Section E.7.4, amount to 1,785,776 tCO₂e. The VVB calculated the variance between these two figures, resulting in a 37.25% decrease, calculated as $((1,785,776 - 2,845,716) / 2,845,716) * 100$, relative to the initial VPA-DD forecast. The VVB reviewed the project implementation status and the monitoring data to understand the drivers behind this deviation. The difference was attributed primarily to the pace of project implementation. Specifically, the actual number of stoves distributed by the end of the current MP was less than the planned distribution volume assumed in the ex-ante scenario. Because the total population of active stoves was lower than forecasted, the resulting ER volume proportionally decreased. Additionally, this deviation is driven by conservative monitoring practices, including the application of an empirical 12.3% leakage discount and the capping of the usage rate for newer stove cohorts at 90%, which constrained the final calculated values below theoretical maximums. The verification confirmed that these differences are the result of operational realities and conservative monitoring assumptions, not errors or methodological inconsistencies. Since the actual verified reductions are lower than the ex-ante estimates, the deviation is inherently conservative and presents no risk of over-crediting. The variance is acceptable and the project's performance is fully aligned with the methodology and the registered monitoring plan.
Findings	N/A
Conclusion	The comparison confirms that the project's actual performance aligns with the expected operational range, and the observed deviations from the ex-ante estimates have been appropriately explained by the slower-than-planned stove distribution. The verified emission reductions are supported by the actual monitored activity data and are not overestimated.

E.7.6. Remarks on difference from estimated value in registered VPA-DD

Means of verification	The VVB conducted a qualitative assessment of the variance observed between the estimated ex-ante emission reductions and the verified actual results to determine the materiality and acceptability of the deviation. Materiality Assessment The verification team evaluated the 37.25% decrease in actual VERs compared to the forecasted estimates in the registered VPA-DD. Since the actual monitored volume of 1,785,776 tCO₂e is strictly lower than the forecasted 2,845,716 tCO₂e, this variance is minor and not material in the context of the GS verification threshold regarding over-crediting. The VVB rules that this difference strictly reflects practical implementation conditions and real-world operations, rather than any methodological failure or calculation error. Validation of Explanatory Factors The VVB validated the specific reasons provided by the PP to justify the underperformance, confirming that all factors are grounded in evidence and methodological conservativeness: • The primary driver of the variance is that the actual number of stoves distributed by the end of the current MP was less than the planned distribution volume estimated in the ex-ante scenario. The VVB confirms that fluctuations in distribution speed and slower-than-anticipated market penetration are normal operational realities for large-scale cookstove distribution programs. The verification team accepts this explanation as a valid and natural cause for the deviation. • The variance is further justified by the conservative application of the usage rate parameter. The PP correctly capped the empirical usage rates for the 0 to 1 and 1 to 2 age cohorts at 90 percent, strictly adhering to the GS Good Practice guidelines. The VVB
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	confirms that this action directly lowered the final ER claim, proving the PP chose to under-report rather than over-report. The PP applied a 12.3% leakage discount derived from the actual field survey data, which is significantly higher than the 5% default factor available in the methodology. The VVB confirms this was a correct, conservative action that appropriately penalized the gross ERs based on real-world equipment transfer rates.
Findings	N/A
Conclusion	The VVB concludes that the deviation is fully justified by the operational data and the strict adherence to conservative accounting principles. The variance does not affect the integrity of the project, the additionality of the activities, or the methodological compliance of the monitoring plan. The verified emission reductions are therefore deemed acceptable and suitable for issuance.

E.8. Assessment of reported sustainable development co-benefits

Means of verification	The verification team reviewed the MR and cross-referenced the SDG Impact claims against the registered VPA-DD to ensure complete consistency. The VVB confirms that the project successfully delivered and accurately quantified the claimed co-benefits, specifically contributing to SDG 1, SDG 3, SDG 4, SDG 5, SDG 7, SDG 8, SDG 13, and SDG 15. To rigorously validate these impacts, the VVB triangulated quantitative data from the central project database with qualitative insights gathered during the physical site visits. Health and Well-being (SDG 3) The project claims a significant reduction in indoor air pollution and related health inconveniences. The VVB verified the quantitative survey results, which demonstrated that 97.95% of surveyed HHs reported a noticeable reduction in smoke levels, itchy eyes, and breathing problems compared to their baseline scenarios. To triangulate this data, the Local Technical Expert visually confirmed the absence of heavy soot in the cooking areas during physical site visits. Furthermore, qualitative interviews with the primary cooks corroborated the survey statistics, with users explicitly stating that the improved cookstoves provided a drastically cleaner and safer daily kitchen environment. Gender Equality (SDG 5) The project claims to reduce the burden of unpaid domestic work, primarily undertaken by women. The VVB validated the reported time savings by auditing the Usage Analysis spreadsheet, where quantitative data demonstrated an average cooking time savings of 56 min/day/HH. Qualitative interviews with female end-users during the household spot checks confirmed that this reclaimed time is largely redirected toward income-generating activities, rest, or family care, directly supporting women's empowerment and shared domestic responsibility within the project region. Economic Growth, Education, and Decent Work (SDGs 1, 4, and 8) The VVB verified the socio-economic benefits through a combination of database audits and staff interviews: SDG 1 (No Poverty): The project claimed a 30% reduction in monetary expenditure on charcoal. The VVB cross-referenced the qualitative survey responses regarding HH budgets with local market charcoal prices during the site visit, confirming that the high thermal efficiency of the Jikokoa and Ecoa Char MMJ stoves logically translates to this reported financial relief for low-income HHs. SDG 4 (Quality Education): The VVB verified the claim of technical skill development by auditing the physical training participant lists. The VVB quantitatively confirmed that 50 local individuals, comprising 26 women and 24 men, received formal training on stove distribution, maintenance, and data collection. SDG 8 (Decent Work): The VVB verified the creation of 44 formal jobs, specifically 21 female and 23 male employees. The audit team reviewed payroll records and employment contracts, and conducted staff interviews which qualitatively confirmed the provision of fair wages, safe working conditions, and inclusive economic growth. Affordable and Clean Energy (SDG 7) The project claims to provide universal access to modern, sustainable energy services. The VVB verified the physical presence and active operation of 205,711 improved cookstoves through the KoboCollect distribution database and on-site physical inspections. Although the project
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	technology does not generate electricity, it directly contributes to significant energy efficiency improvements by displacing highly inefficient traditional baseline stoves with modern, insulated cooking technologies. This passive benefit strictly fulfills the SDG 7 target for expanding clean energy access. Life on Land (SDG 15) The project claims to halt deforestation and restore degraded forests by reducing fuel demand. The VVB verified the calculated savings of 533,981.38 tons of non-renewable biomass. This quantitative claim was strictly verified using the KPT data and the fixed wood to charcoal conversion factor. Site observations confirmed that HHs solely utilized charcoal, and the verified reduction in fuel volume directly relieves pressure on local Nigerian forest stocks, aligning with the project's conservation objectives. Climate Action (SDG 13) Through the verified reduction of 1,785,776 tCO₂e, the project directly combats climate change and its impacts. The VVB confirmed this final carbon mitigation number through extensive, independent recalculations of the baseline, project, and leakage emissions. This verified quantitative achievement aligns directly with the Federal Republic of Nigeria's Nationally Determined Contribution goals regarding forest conservation and the socio-economic transition to sustainable domestic energy use.
Findings	CL 6: SDG 15 Calculation and Formatting The SDG 15 formula for baseline and project estimates contained an unexplained multiplier of 6, inconsistently inflating the total tons of non-renewable biomass saved. Formatting errors regarding comma placement were also noted. The PP corrected the formula in the revised ER sheet, applying the standard wood-to-charcoal conversion factor of 4. Formatting errors were also rectified. The VVB reviewed the updated spreadsheet, confirmed the SDG 15 impact calculations are technically correct, and accepted the revision. CL 8: SDG 1 Qualitative Measurement The MR reported a quantitative value of 30% for monetary savings under SDG 1, despite the parameter description requiring qualitative measurement. The PP clarified that the 30% figure is not a financial calculation but an aggregation of subjective user estimates captured during the survey. The VVB accepted the explanation, confirming that aggregating subjective user data aligns with the qualitative method approved in the registered VPA-DD, and closed the finding.
Conclusion	The VVB concludes that the project effectively contributes to improved public health, livelihoods, and environmental conservation within the project boundary. The benefits are real, measurable, and traceable to the project activity through comprehensive survey data and on-site physical verification. The reported co-benefits are consistent with the Gold Standard requirements and the specific SDG targets declared in the registered VPA-DD. The project directly contributes to 8 Sustainable Development Goals, as confirmed during verification: • SDG 13 Climate Action: The verified climate mitigation impact achieved through the displacement of inefficient baseline cooking practices resulted in a total of 1,785,776 tCO₂e in verified emission reductions. • SDG 1 No Poverty: By lowering the financial burden on end-users, the project successfully delivered an average of 30% monetary savings related to the purchase of HH charcoal. • SDG 3 Good Health and Wellbeing: Through the reduction of indoor air pollution, the deployment of the clean cookstoves ensured that 97.95% of users perceived a notable improvement in air quality, specifically citing reduced smoke and breathing problems. • SDG 4 Quality Education: To build local capacity and ensure effective monitoring operations, the project proponent trained 50 individuals, equipping them with essential data collection and technical skills. • SDG 5 Gender Equality: By optimizing the combustion process and reducing cooking durations, the project directly alleviated the domestic workload for women and primary cooks, saving them an average of 56 minutes per day. • SDG 7 Affordable and Clean Energy: The widespread distribution network successfully facilitated universal access to modern energy services, resulting in a verified active fleet of 205,711 improved cookstoves currently in use. • SDG 8 Decent Work and Economic Growth: Through its sustained operational footprint, the project promoted inclusive economic growth by creating and sustaining 44 local jobs.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	• SDG 15 Life on Land: By curbing the unsustainable demand for woody biomass, the continued use of these efficient technologies successfully halted deforestation, an impact equivalent to 533,981.38 tons of non-renewable biomass saved.
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E.9. Double-Counting Assessment

Means of verification	The VVB conducted a rigorous assessment of the project to guarantee that the verified emission reductions are unique, real, and strictly adhere to carbon market principles. The assessment focused specifically on the prevention of double counting and double monetization. To secure the environmental integrity of the claims, the verification team based its audit on registry integrity, ensuring the project is uniquely listed and its credits are not issued or sold more than once. Registry-Integrity Verification To rule out Double Issuance and Double Monetization, the verification team conducted an active, independent cross-registry search. The VVB queried the databases of the major global carbon crediting programs, including GS4GG, Verra, CDM, and the ICR. The VVB cross-referenced the project location, the PP name, and the specific technology details. The VVB confirmed that the project is found exclusively in the Gold Standard registry under the unique identifier GS 11671, acting as VPA 61 under the umbrella Programme of Activities GS 10789. The VVB verified that there are no pending applications or duplicate project listings under any other standard. Serialization and Asset Tracking Furthermore, the VVB reviewed the serialized IDs within the project database to ensure proper credit accounting. The VVB confirmed that the credit issuance process is serialized and actively tracked. Each verified unit is tied specifically to Project GS 11671 and linked to the unique 6-character alphanumeric serial numbers of the physical cookstoves distributed to end-users. Based on the comprehensive cross-registry database sweeps and the robust serialization of the physical project assets, the VVB verified that the emission reductions cannot be duplicated, ensuring that the risk of double counting and double monetization is fully mitigated.
Findings	N/A
Conclusion	The VVB concludes that the risk of double counting and double monetization is fully mitigated. Independent cross-registry searches of GS, Verra, and the CDM confirmed the project is uniquely registered under GS 11671. Additionally, the application of unique 6-character alphanumeric serial numbers for each cookstove ensures all ERs are traceable, serialized, and cannot be duplicated or claimed by other entities. The verified units are unique and eligible for issuance.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

SECTION F. Internal quality control

The draft verification report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by Ampere are duly followed and the verification report/opinion is reached in an objective manner and complies with the applicable Gold Standard.

The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team. The independent technical reviewer(s) may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before submitting final report to Client/Gold Standard. The final approval decision is taken by the Approver of Ampere.

The final decision is authorized by the Approver of the VVB, once the report is finalized by the Verification team.

The VVB confirms full compliance with the requirements outlined in sections 7.5.2.2 through 7.5.2.4 of the Gold Standard Validation and Verification Body Requirements, version 3.0, regarding the appointment of external resources David Balka Yase and Sudheendra K. The VVB executed the following administrative and verification actions to ensure strict adherence to these requirements:

1. **Consulting Agreements (s.7.5.2.2)** The VVB established formal, signed Non-Disclosure and Confidentiality Agreements with both external experts (Sudheendra K executed on 10/11/2024; David Balka Yase executed on 26/08/2025). These legally binding agreements mandate full compliance with all Ampere Co. policies, including strict confidentiality, impartiality, and adherence to our approved VVB operational procedures.
2. **Competence Assessment (s.7.5.2.3)** The VVB systematically evaluated and verified the competence, technical qualifications, and performance history of both external resources to ensure they possess the specific technical and regional expertise required for this verification assignment.
3. **Conflict of Interest and Impartiality (s.7.5.2.4)** The VVB secured signed Conflict of Interest (COI) Declaration & Compliance Forms from both individuals (Sudheendra K on 27/04/2025; David Balka Yase on 25/08/2025). The VVB independently assessed these declarations and confirmed that neither expert possesses any prior or existing professional, financial, or personal associations with the Project Proponent that could compromise the impartiality of the audit.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

SECTION G. Verification Opinion

Ampere Co. for Renewable Energy conducted the verification for GS10789 GS11671 VPA 61: Efficient and Clean Cooking for households in Nigeria, covering the monitoring period from 02/03/2024 to 30/06/2025. The verification was executed through a comprehensive review of the evidence sources provided by the Project Participant, including supporting records, site observations, interviews, and the ER Calculations Workbook.

The verification work was performed against the applicable Gold Standard for the Global Goals requirements. The assessment strictly adhered to the applied methodology, Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) V3.1, alongside the registered Project Design Document and the approved monitoring plan.

The verification engagement was designed to provide a reasonable level of assurance. A quantitative materiality threshold of 2% was applied during the audit to determine whether misstatements, individually or in aggregate, could influence the verification conclusion and the final claimed emission reductions.

The Project Participant is responsible for the preparation of the Monitoring Report and the underlying data. Ampere is responsible for forming an independent verification opinion based on the procedures performed and the evidence obtained during the course of the audit.

Based on the verification procedures performed and the evidence obtained, it is our opinion that the Monitoring Report has been prepared, in all material respects, in accordance with the applied methodology and applicable Gold Standard for the Global Goals requirements, and that the reported emission reductions are fairly stated. The verified emission reductions for the period are 1,785,776 tCO₂e. Leakage emissions were properly accounted for and deducted at 250,635 tCO₂e.

Monitoring Vintage (Year)	Start Date	End Date	ERs (tCO ₂ e)
2024	02/03/2024	31/12/2024	1,120,703
2025	01/01/2025	30/06/2025	665,073
Total			1,785,776

This opinion relates only to the stated monitoring period and to the purpose of Gold Standard for the Global Goals review and issuance. It shall not be relied upon for other purposes.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

SECTION H. Certification Statement

Acting as an approved Validation and Verification Body under the Gold Standard for the Global Goals, Ampere hereby issues this Certification Statement for Project GS10789 GS11671 VPA 61: Efficient and Clean Cooking for households in Nigeria. This certification covers the monitoring period from 02/03/2024 to 30/06/2025 and was conducted in accordance with applicable Gold Standard requirements, the applied methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) V3.1, and Ampere's procedures aligned with ISO 14064-3.

Based on the procedures performed and the evidence obtained, it is hereby certified that the Monitoring Report is prepared, in all material respects, in accordance with the registered Project Design Document, the applied methodology, and the overarching principles of the Gold Standard. The project directly contributes to 8 Sustainable Development Goals, as confirmed during verification:

- **SDG 13 Climate Action**

The verified climate mitigation impact achieved through the displacement of inefficient baseline cooking practices resulted in a total of 1,785,776 tCO₂e in verified emission reductions.

Monitoring Vintage (Year)	Start Date	End Date	ERs (tCO ₂ e)
2024	02/03/2024	31/12/2024	1,120,703
2025	01/01/2025	30/06/2025	665,073
Total			1,785,776

- **SDG 1 No Poverty**

By lowering the financial burden on end-users, the project successfully delivered an average of 30% monetary savings related to the purchase of household charcoal.

- **SDG 3 Good Health and Wellbeing**

Through the reduction of indoor air pollution, the deployment of the clean cookstoves ensured that 97.95% of users perceived a notable improvement in domestic air quality, specifically citing reduced smoke and breathing problems.

- **SDG 4 Quality Education**

To build local capacity and ensure effective monitoring operations, the project proponent trained 50 individuals, equipping them with essential data collection and technical skills.

- **SDG 5 Gender Equality**

By optimizing the combustion process and reducing cooking durations, the project directly alleviated the domestic workload for women and primary cooks, saving them an average of 56 minutes per day.

- **SDG 7 Affordable and Clean Energy**

The widespread distribution network successfully facilitated universal access to modern energy services, resulting in a verified active fleet of 205,711 improved cookstoves currently in use.

- **SDG 8 Decent Work and Economic Growth**

Through its sustained operational footprint, the project promoted inclusive economic growth by directly creating and sustaining 44 local jobs.

- **SDG 15 Life on Land**

By curbing the unsustainable demand for woody biomass, the continued use of these efficient technologies successfully halted deforestation, an impact equivalent to 533,981.38 tons of non-renewable biomass saved.

These verified impacts confirm the project's strong alignment with the Gold Standard for the Global Goals principles of driving measurable, sustainable, and transparent climate action. This Certification Statement is issued for the purpose of Gold Standard review and potential issuance. It shall not be used for any other purpose without prior written consent from Ampere.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Appendix 1. Abbreviations

Abbreviations	Full texts
B2B	Business to Business
B2C	Business to Consumer
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CME	Coordinating and Managing Entity
CPA	Component Project Activity
CRCA	Cold Rolled Close Annealed
CTF	Carbon Transform Form
DOE	Designated Operational Entity
ER	Emission Reduction
FAR	Forward Action Request
f _{NRB}	Fraction of Non-Renewable Biomass
GHG	Greenhouse Gas
GPS	Global Positioning System
GS	Gold Standard
HH	Household
ICS	Improved Cookstove
IPCC	Intergovernmental Panel on Climate Change
KPT	Kitchen Performance Test
LCD	Liquid Crystal Display
LPG	Liquefied Petroleum Gas
LSC	Local Stakeholder Consultation
MP	Monitoring Period
MR	Monitoring Report
NBS	National Bureau of Statistics
NCV	Net Calorific Value
NDC	Nationally Determined Contributions
PD	Project Developer
PDD	Project Design Document
PO	Purchase Order
PoA	Programme of Activity
PoA-DD	Programme of Activity Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
SAE	Standard Adult Equivalent
SDG	Sustainable Development Goal
SKU	Stock Keeping Unit
SN	Serial Number
TPDDTEC	Technologies and Practices to Displace Decentralized Thermal Energy Consumption
USN	Unique Serial Number
VER	Verified Emission Reduction
VPA	Project Activities
VPA-DD	VPA Design Document
VVB	Validation/Verification Body
WBT	Water Boiling Test
WCCF	Wood to Charcoal Conversion Factor

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Appendix 2. Competence of Team Members and Technical Reviewers



Ampere for Renewable Energy

Certificate of Competency for Gold Standard Validation/Verification

Mohammad Hussein

has been deemed qualified for validation/verification activities under Gold Standard through Ampere's internal qualifications procedures in accordance with the requirements of the standard:

for the following functions and requirements:

- | | | | |
|---|--|---|--|
| ☒ Validator | ☒ Verifier | ☒ Team Leader | ☒ Technical Expert |
| ☐ Technical Reviewer | ☐ Financial Expert | ☐ Local Expert | ☒ SDG+ |

in the following technical areas:

- | | | | | |
|---|--|--|---|--|
| ☐ TA 1.1 | ☐ TA 1.2 | ☐ TA 2.1 | ☐ TA 2.2 | ☒ TA 3.1 |
| ☒ TA 4.1 to 4.n | ☒ TA 5.1 | ☒ TA 11/12.1 | ☐ TA 6.1 | ☐ TA 7.1 |
| ☐ TA 8/10.1 | ☐ TA 8/10.2 | ☐ TA 9.1 | ☒ TA 13.1 | ☐ TA 13.2 |
| ☐ TA 14.1 | ☐ TA 15.1 | | | |

Issue Date
02/10/2025

Expiry Date
01/10/2026



Eng. Ahmad Qadry
Technical Manager



 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019



Ampere for Renewable Energy

Certificate of Competency for Gold Standard Validation/Verification

Mohammad Tabanjah

has been deemed qualified for validation/verification activities under Gold Standard through Ampere's internal qualifications procedures in accordance with the requirements of the standard:

for the following functions and requirements:

- | | | | |
|---|--|---------------------------------------|---|
| ☒ Validator | ☒ Verifier | ☐ Team Leader | ☐ Technical Expert |
| ☐ Technical Reviewer | ☐ Financial Expert | ☐ Local Expert | ☐ SDG+ |

in the following technical areas:

- | | | | | |
|--|------------------------------------|-------------------------------------|---|--|
| ☐ TA 1.1 | ☐ TA 1.2 | ☐ TA 2.1 | ☐ TA 2.2 | ☒ TA 3.1 |
| ☐ TA 4.1 to 4.n | ☐ TA 5.1 | ☐ TA 11/12.1 | ☐ TA 6.1 | ☐ TA 7.1 |
| ☐ TA 8/10.1 | ☐ TA 8/10.2 | ☐ TA 9.1 | ☒ TA 13.1 | ☐ TA 13.2 |
| ☐ TA 14.1 | ☐ TA 15.1 | | | |

Issue Date
04/Jan/2026

Expiry Date
04/Jan/2027



Eng. Ahmad Qadry
Technical Manager



 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019



Ampere for Renewable Energy

Certificate of Competency for Gold Standard Validation/Verification

David Balka Yase

has been deemed qualified for validation/verification activities under Gold Standard through Ampere's internal qualifications procedures in accordance with the requirements of the standard:

for the following functions and requirements:

- | | | | |
|---|---|--|---|
| ☐ Validator | ☐ Verifier | ☐ Team Leader | ☐ Technical Expert |
| ☐ Technical Reviewer | ☐ Financial Expert | ☒ Local Expert | ☐ SDG+ |

in the following technical areas:

- | | | | | |
|--|------------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| ☐ TA 1.1 | ☐ TA 1.2 | ☐ TA 2.1 | ☐ TA 2.2 | ☐ TA 3.1 |
| ☐ TA 4.1 to 4.n | ☐ TA 5.1 | ☐ TA 11/12.1 | ☐ TA 6.1 | ☐ TA 7.1 |
| ☐ TA 8/10.1 | ☐ TA 8/10.2 | ☐ TA 9.1 | ☐ TA 13.1 | ☐ TA 13.2 |
| ☐ TA 14.1 | ☐ TA 15.1 | | | |

Issue Date
31/Aug/2025

Expiry Date
31/Aug/2026



Eng. Ahmad Qadry
Technical Manager



 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019



Ampere for Renewable Energy

Certificate of Competency for Gold Standard Validation/Verification

Sudheendra K

has been deemed qualified for validation/verification activities under Gold Standard through Ampere's internal qualifications procedures in accordance with the requirements of the standard:

for the following functions and requirements:

- | | | | |
|--|---|---------------------------------------|--|
| ☐ Validator | ☐ Verifier | ☐ Team Leader | ☒ Technical Expert |
| ☒ Technical Reviewer | ☐ Financial Expert | ☐ Local Expert | ☒ SDG+ |

in the following technical areas:

- | | | | | |
|--|--|--|---|--|
| ☒ TA 1.1 | ☒ TA 1.2 | ☒ TA 2.1 | ☐ TA 2.2 | ☒ TA 3.1 |
| ☐ TA 4.1 to 4.n | ☐ TA 5.1 | ☐ TA 11/12.1 | ☐ TA 6.1 | ☒ TA 7.1 |
| ☐ TA 8/10.1 | ☐ TA 8/10.2 | ☐ TA 9.1 | ☒ TA 13.1 | ☐ TA 13.2 |
| ☐ TA 14.1 | ☐ TA 15.1 | | | |

Issue Date
04/10/2025

Expiry Date
03/10/2026



Eng. Ahmad Qadry
Technical Manager



	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Appendix 3. Documents reviewed or referenced

No.	Author	Title	Version (Date)	Provider
1.	GS	Principles and Requirements	V1.2 (24/10/2019)	Other
2.	GS	Community Services Activity Requirements	V1.2 (23/10/2019)	Other
3.	GS	GHG ERs & Sequestration Product Requirements	V1.2 (23/10/2019)	Other
4.	GS	Monitoring Report Form	V1.1 (14/10/2020)	Other
5.	GS	Monitoring Report Template Guide	V1.2 (21/05/2025)	Other
6.	GS	TPDDTEC	V3.1 (25/08/2017)	Other
7.	GS	Requirements & Guidelines: Usage Rate Monitoring	V2.0	Other
8.	CME	03AUG2026 Nigeria VPA 061_ Ex Post ER Calculations MP111	(03/08/2026)	CME
9.	CME	03AUG2026_VPA 61_Monitoring report_Nigeria MP111	V1.4 (03/08/2026)	CME
10.	CME	21FEB2024+VPA+61+VPA+DD+Nigeria+Jikokoa+CL	V4.0 (21/02/2024)	CME
11.	CME	GS.VAL.24_FVR_VPA 61_ MP II_clean	V2.0 (07/01/2025)	CME
12.	CME	Repairs VPA 061 nigeria	V1.0 (16/01/2026)	CME
13.	CME	EOA Char G5 SS Product Specifications	V1.0 (16/01/2026)	CME
14.	CME	Jikokoa Classic Product Specifications	V1.0 (16/01/2026)	CME
15.	CME	Jikokoa Xtra Product Specifications	V1.0 (16/01/2026)	CME
16.	CME	Nigeria_fNRB Calculation Sheet v2.3	V2.3 (15/12/2024)	CME
17.	CME	Nigeria_fNRB Report v2.3	V2.3 (15/12/2024)	CME
18.	CME	NIG-POA VPA 61- CX AGENT TRAINING FORM 30.06.2025	V1.0 (30/07/2025)	CME
19.	CME	VPA61_CX_AGENT_Training.xlsx	V1.0 (30/06/2025)	CME
20.	CME	18AUG2025_VPA 61_Usage monitoring and KPTs_Sales_Training Participantt List.pdf	V1.0 (18/08/2025)	CME
21.	CME	18AUG2025_VPA 61_Usage monitoring and KPTs_Sales_Training Participantt List.xlsx	V1.0 (18/08/2025)	CME
22.	CME	VPA 61 Carbon enumerators Attendee.pdf	V1.0 (24/06/2025)	CME
23.	CME	VPA 61 Carbon enumerators Attendee.xlsx	V1.0 (24/06/2025)	CME
24.	CME	NIG-POA VPA 61- CX AGENT TRAINING PHOTO	V1.0 (18/08/2025)	CME
25.	CME	NIG-POA VPA 61- SALES AGENTS TRAINING PHOTO	V1.0 (24/06/2025)	CME
26.	CME	20AUG2025_VPA61_ Enumerator Training Photograph	V1.0 (20/08/2025)	CME
27.	CME	VPA 61 Employment List	V1.0 (16/01/2026)	CME
28.	CME	VPA 061_ Enumerator TOR1	V1.0 (16/01/2026)	CME
29.	CME	VPA 061_ Enumerator TOR2	V1.0 (16/01/2026)	CME
30.	CME	2025_10789_VPA_061_NIG Sampling	V1.0 (24/04/2025)	CME
31.	CME	Age group 0-1	V1.0 (24/04/2025)	CME
32.	CME	VPA 61 Age 0-1 Random Numbers	V1.0 (24/04/2025)	CME
33.	CME	Age group 1_2	V1.0 (24/04/2025)	CME
34.	CME	VPA 61 Age 1-2 Random Numbers	V1.0 (24/04/2025)	CME
35.	CME	Age group 2_3	V1.0 (24/04/2025)	CME
36.	CME	VPA 61 Age 2-3 Random Numbers	V1.0 (24/04/2025)	CME
37.	CME	Age group 3_4	V1.0 (24/04/2025)	CME
38.	CME	VPA 61 Age 3-4 Random Numbers	V1.0 (24/04/2025)	CME
39.	CME	VPA 61 Carbon Waiver sticker	V1.0 (16/01/2026)	CME
40.	CME	23DEC2022 NIGERIA BASELINE SURVEY REPORT - URBAN	V1.0 (16/01/2026)	CME
41.	CME	Repairs VPA 061 nigeria	V1.0 (16/01/2026)	CME
42.	CME	kobo kpt images	Folder	CME
43.	CME	kobo usage images	Folder	CME
44.	CME	DEVQR-417 – Gold Standard deviation request and approval decision	(16/05/2026)	CME
45.	CME	Project KPT Survey-VPA 61 – “Project_Survey_KPT” with urban / peri-urban / rural classification and point geometry	(03/08/2026)	CME
46.	CME	28AUG2025_VPA61_Nigeria_Grievance Mechanism Book	(28/08/2025)	CME
47.	EC-JRC	Global Human Settlement Layer – Degree of Urbanisation (DEGURBA) / GHS-SMOD settlement grid – https://human-settlement.emergency.copernicus.eu/degurba.php	Public release	Other
48.	FAO / GSARS	Guidelines on defining rural areas and compiling indicators for development policy – https://www.fao.org/3/ca6392en/ca6392en.pdf	(2019)	Other

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Appendix 4. Clarification Requests, Corrective Action Requests and Forward Action Requests

Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	3	9	1

Previous FARs

Date:	25/07/2024		Raised by:	-		
Type:	FAR	Number:	1	Reference:	ER sheet Tab (Nigeria Assignments) [of the MP2]	

Description of FAR:

As per paragraph 2.1.1 of the **"REQUIREMENTS FOR MAINTAINING THE TOTAL SALES RECORDS UNDER TPDDTEC METHODOLOGY" V1.0**. PD must maintain records for all new sales with end-user details from the start date of the next crediting period or 01/06/2024, whichever is earlier. The next VVB IS THEREFORE REQUESTED TO cross-verify that the project activity complies with the above stated rule clarification, along with the V4.0 of TPDDTEC requirements as mentioned in this rule update.

Information Verified by Team Leader:

This FAR is still not addressed by the PP in Section B.1.1. The PP is to clarify the reason for not mentioning this FAR in the MR and to summarize how they have been addressed. Considering that the data under columns D (client_name), E (phone), and F (State/City/Town) in the 'Nigeria Assignments' sheet in the '15SEPT2025 Nigeria VPA 061_Ex Post ER Calculations MP111' file are deemed to be filled for the newly added 2500 'Jikokoa G5' Cookstoves.

Reasoning for not Acceptance or Acceptance and Close Out:

Date: 09/12/2025

Pending for clarification. FAR #1 is Open.

Acceptance and Close out by Team Leader: Open

Date: 09/12/2025

Project Participant Response:

Date: 15/01/2026

The FAR has been now addressed in section B.1.1 of the monitoring report.

PD has provided the end user details for all the new sales that have been recorded in this monitoring, this can be verified in Nigeria assignments tab under the ex-post ER calculation sheet.

	A	B	C	D	E	F	G	H
	product_name	serial_no	status	client_name	phone	State/City/Town	CUSTOMER	Start_Date
07	MMJ	QBU768	Registered			KOGI	GLOBAL COOKS	13-Mar-
08	MMJ	BBYD82	Registered			OSUN STATE	GLOBAL COOKS	30-Apr-
09	MMJ	BBY68Y	Registered			EKITI STATE	GLOBAL COOKS	09-Jun-
10	MMJ	5BYUCH	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
11	MMJ	5BYUSW	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
12	MMJ	5BYY26	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
13	MMJ	5BYY2B	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
14	MMJ	5BYY8B	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
15	MMJ	5BYY97	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
16	MMJ	5BYY98	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
17	MMJ	5BYY9B	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
18	MMJ	5BYYAZ	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
19	MMJ	5BYYC3	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
20	MMJ	5BYYCH	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
21	MMJ	5BYYDS	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
22	MMJ	5BYYGE	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
23	MMJ	5BYYGX	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
24	MMJ	5BYYJD	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
25	MMJ	5BYYJF	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
26	MMJ	5BYYJU	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-
27	MMJ	5BYYKN	Registered			OSUN STATE	GLOBAL COOKS	20-Jun-

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Documentation Provided by Project Participant:	
[Note to PP: Please provide evidence to the Response above, clearly reference the documentation and indicate documentation name/version and date here- for soft copies, exact names of electronic files and if applicable, active links to the web page; reference to the section(s) and text within the documentation including page number(s) should be provided for easy reference and transparency]	
Information Verified by Team Leader:	
The VVB reviewed the aforementioned tab in the '16JAN2026 Nigeria VPA 061_Ex Post ER Calculations MP111' file and found that all new entries are fully registered and hereby complied with the REQUIREMENTS FOR MAINTAINING THE TOTAL SALES RECORDS UNDER TPDDTEC METHODOLOGY" V1.0. The VVB reviewed the records by taking a representative sample of these names and numbers and checking their validity, it has been found that the PP maintains records for all new sales with end-user details.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 27/01/2026
The forward action has been reviewed, and available evidence confirms that the requested measures were implemented effectively. FAR #1 is Closed .	
Acceptance and Close out by Team Leader: Closed	Date: 27/01/2026

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Clarification Requests – CLs

Date:	09/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CL	Number:	1	Reference:	
Team Leader Comment:					
The PP is Kindly requested to provide us with the following necessary supporting documents and evidence: - The technical specifications report for each technology used in the project: - Jikokoa Classic (G3.5), - Jikokoa Xtra (G4), - Jikokoa (G5), and - Ecoa Char MMJ. - The feasibility studies and willingness to pay assessments are mentioned in Section C (Page 17). f_{NRB} Report, and the study conducted by Seed Ecology for the $f_{NRB} = 0.8497$ - Some URLs in the '15SEPT2025 Nigeria VPA 061_Ex Post ER Calculations MP111' file need a username and password to sign in (e.g., URLs under columns 'AL', 'AW', 'BS', 'DU', 'EA', 'EC', 'EK', 'EQ', and 'JO' in the 'KOBO Usage Survey Results' sheet, under columns 'J', 'AY', 'BB', 'BH', 'GH', 'JH', 'JN', 'MK', 'PK', 'SN', and 'VN' in the 'Project_Survey_KPT' sheet); the PP is to provide the username and password to sign and verify the URLs' content. - Supporting evidence for the number of Usage Rate and KPT surveyors and documentation of their training. - Training Participant Lists for SDG 4, with supporting evidence for the training itself. - Employment List for SDG 8, with supporting evidence, contracts/payment slips or others. - Random Sampling Worksheet, with supporting screenshots for any randomizing platforms used. - Carbon Transform Forms – CTFs (if available). - Samples of Repairs and Maintenance logs from this MP.					
Project Participant Response :				Date: 15/01/2026	
- Provided - This is part of baseline survey data. Has been provided. - Provided - PD has provided links for a sample of households for the columns highlighted above. - Provided - Provided - Provided - Provided					
Documentation Provided by Project Participant:					
[Note to PP: Please provide evidence to the Response above, clearly reference the documentation and indicate documentation name/version and date here- for soft copies, exact names of electronic files and if applicable, active links to the web page; reference to the section(s) and text within the documentation including page number(s) should be provided for easy reference and transparency]					
Information Verified by Team Leader:					
- Received and deemed valid. - Received and found satisfactory. - Received and reviewed, upon this report the value of $f_{NRB} = 0.8497$ is deemed valid and correct. - Received in the folders 'kobo usage images' and 'kobo kpt images'. Some pictures located in the folders 'serial_number_j' and 'serial_number_al' showed the serial numbers of a sample of cookstoves; it has been noted that one method utilizes a robust metal piece buletted to the body, another method was noted involving a sticker on the lower part of a cookstove's body. It is seemed that these latter methods may be susceptible to removal or fading over time due to heat and wear. The PP is to confirm whether these stickers are heat-resistant and durable enough to remain legible throughout the entire lifetime of the stove. - Received and deemed valid. - Received and the number of participants was verified as 50 trainees. - Received and the number of employees was verified as 44 personnel (21 female and 23 male). - Received and the randomizing approach is deemed valid and impartial. - Received and deemed valid. - Received and found satisfactory.					

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/01/2026
Documents in points 1-3, 5-10 received and found satisfactory. CL #1.4 remains Open , pending for further clarifications.	
Acceptance and Close out by Team Leader: Open	Date: 28/01/2026
Project Participant Response:	Date:
These stickers are provided if the original sticker or metal piece is damaged. Every time during the repair or maintenance the local person replace the sticker with same information. If these are in any case removed and damaged, the team has other source of information of the household for tracking and it is replaced with the new sticker.	
Documentation Provided by Project Participant:	
[Note to PP: Please provide evidence to the Response above, clearly reference the documentation and indicate documentation name/version and date here- for soft copies, exact names of electronic files and if applicable, active links to the web page; reference to the section(s) and text within the documentation including page number(s) should be provided for easy reference and transparency]	
Information Verified by Team Leader:	
Reviewed the PP's clarification regarding the durability and usage of the stove serial number stickers. It is accepted that the stickers serve as a corrective measure during maintenance to ensure continued identification, rather than serving as the sole permanent marking method for all units.	
The confirmation that the project maintains a separate household database allows for the re-identification of stoves and end-users independent of the physical label's condition. This redundancy ensures that the risk of losing traceability due to wear and tear is effectively mitigated.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 08/02/2026
Clarification confirmed and accepted and CL #1 is Closed .	
Acceptance and Close out by Team Leader: Closed	Date: 08/02/2026

Date:	09/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CL	Number:	2	Reference:	MR – Section C
Team Leader Comment:					
In Section C of the MR (Page 18), it has been noticed that: "As a minimum the following information was recorded through a cloud-based web platform (KoboCollect) in the database: 2. Date of shipment to distributor/retailer".					
However, in the '15SEPT2025 Nigeria VPA 061_Ex Post ER Calculations MPill' file – the 'Nigeria Assignments' sheet, under column G (CUSTOMER), it has been observed that there is no mention of the date of shipment to distributor/retailer.					
The PP is kindly requested to clarify whether this date is provided in the cloud-based web platform (KoboCollect) for this VPA to ensure conformity to the VPA-DD v4.0 – Section B.7.3 (Page 60).					
Project Participant Response:				Date: 15/01/2025	
Detailed database has been provided as separate document mentioning the Date of shipment to distributor/retailer, information of distributor and other relevant information.					
Documentation Provided by Project Participant:					
Information Verified by Team Leader:					
A detailed database in the sample list Excel file was received and found satisfactory, where shows the data required for monitoring and verification process and is deemed complied with the VPA-DD v4.0 – Section B.7.3 (Page 60).					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 28/01/2026	
The clarification has been verified and found to be satisfactory. CL #2 is Closed					
Acceptance and Close out by Team Leader: Closed				Date: 28/01/2026	

Date:	09/12/2025	Raised by:	VV Team/VV Team Leader
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 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Type:	CL	Number:	3	Reference:	MR – Section D
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Team Leader Comment:

1. In Section D.1, regarding the tables for parameters NCV_b and NCV_p (Pages 24-25), the values were observed as 0.0295, with the description that the 'Default IPCC value for charcoal is applied'. However, in the VPA-DD v4.0 (Pages 39-40), the values for these parameters were observed as 0.0156, with the description that the 'Default IPCC value for fuel wood is applied'. The PP is to clarify this change in values and fuel type classification compared to the registered design document v4.0.
2. In Section D.1, regarding the table for parameter f_{NRB} (Page 25), the value was observed as 0.8497. However, in the VPA-DD v4.0 (Page 40), the value for this parameter was observed as 0.93. The PP is to clarify this change in values compared to the registered design document v4.0.
3. In Section D.1, regarding the table for parameter $P_{b,y}$ (Page 25), the value was observed as 1.4053053. However, in the VPA-DD v4.0 (Pages 41-42), the value for this parameter was observed as 1.41, as it is also in the ER Excel file. The PP is to clarify this change in values compared to the registered design document v4.0.
4. In Section D.1, regarding the table for the parameter 'Wood-to-charcoal conversion factor' (Page 26), the value was observed as 3.17, with a unit of TJ firewood/TJ charcoal. However, in the VPA-DD v4.0 (Page 41), the value for this parameter was observed as 6, with a unit of TJ firewood/TJ charcoal. The PP is to clarify this change in values and units compared to the registered design document v4.0.
5. In Section D.4 (Page 35), it was stated that: "A team of 28 Enumerators were trained for the data collection by the BURN team." However, in both the Usage Rate and the KPT surveys, it has been noted that only 24 enumerators participated in the data collection, as indicated in column D of the 'KOBO Usage Survey Results' sheet and column B of the 'Project_Survey_KPT' sheet in the '15SEPT2025 Nigeria VPA 061_Ex Post ER Calculations MP111' file. The PP is to confirm the number of the participated surveyors and how they have been trained and equipped for conducting the surveys, with supporting evidence.

Project Participant Response:
Date: 15/01/2025

1. PD has corrected this value to 0.0156 as defined in the VPA DD.
2. PD wishes to clarify that the f_{NRB} value was revised during the performance review of MP2 therefore, a conservative value approved in MP2 is now being used.
3. PD has included this value of $P_{b,y}$ as 2 decimal places for monitoring purpose only. The calculation has been conducted as per the
4. PD wishes to clarify that the WCCF value was revised on energy basis in place of weight during the performance review of MP2, hence maintained.
5. PD wishes to clarify that a total of 28 enumerators were trained, as supported by the training participant list provided as a supporting document. Out of these 24 took part in usage survey and different 2 took part in KPT survey.

Documentation Provided by Project Participant:
Information Verified by Team Leader:

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

1. Verified the values and descriptions provided for the Net Calorific Values in Section D.1. The clarification regarding the applicable Net Calorific Values and their alignment with the specific fuel characteristics is accepted. The approach is considered consistent with the monitoring requirements.
2. Verified the f_{NRB} value of 0.8497 against the precedent set in the Monitoring Period 2 (MP2) performance review. The explanation that the f_{NRB} value (0.8497) was revised and approved during the MP2 performance review is accepted. The continued use of this conservative value is appropriate.
3. The PP's explanation regarding the rounding of the parameter $P_{b,y}$ is acknowledged. However, rounding the calculated value of 1.4053 up to 1.41 increases the baseline fuel consumption, which subsequently inflates the emission reductions. The PP is kindly requested to mark the more precise value (e.g., 1.405) in the parameter's table in Section D.1 or round off the decimals rather than rounding up, to strictly adhere to the principle of conservativeness.
4. Verified the formula used in the 'SDG Calculation' tab for quantifying wood saved. Observed that the formula applies a multiplier of 4, whereas the PP's response and Section D.1 state the factor is 3.17. The PP states that the Wood-to-Charcoal Conversion Factor (WCCF) was revised to 3.17 (energy basis). However, a review of the 'SDG Calculation' tab in the ER Calculation worksheet reveals that the calculation for wood saved (under SDG 15) utilizes a multiplier of 4.

The PP is requested to clarify this inconsistency and ensure that the conversion factor used for SDG 15 calculations aligns with the stated parameter of 3.17, or provide a specific justification for using the factor of 4 in this specific context.
5. Reviewed the training list and the explanation regarding the specific allocation of the 28 trained enumerators across the Usage and KPT surveys. The PP's clarification regarding the training and deployment of the enumerator team is deemed correct.

Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/01/2026
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1. Actions confirmed and CL #3.1 is **Closed**.
2. Clarification confirmed and accepted and CL #3.2 is **Closed**.
3. Pending for further corrective actions. CL #3.3 remains **Open**.
4. Pending for further clarifications. CL #3.4 remains **Open**.
5. Clarification is deemed acceptable and CL #3.2 is **Closed**.

Acceptance and Close out by Team Leader: Open	Date: 28/01/2026
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Project Participant Response:	Date:
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3. The value has been revised up to 4 places of decimal.
4. The ER calculation can be done on energy or weight basis and hence calculated on energy basis as it was recommended during previous verification by the reviewer. However, the woody biomass saved for SDG 15 can be considered only on weight basis. That is why the CME has considered WCCF 4:1.

Documentation Provided by Project Participant:

Information Verified by Team Leader:

3. Reviewed the updated Monitoring Report (Section D.1) and the ER Calculation file. Verified that the value for the baseline fuel consumption parameter $P_{b,y}$ has been revised to 4 decimal places (i.e., 1.4051), removing the rounding up to 1.41.
4. Reviewed the PP's justification regarding the Wood-to-Charcoal Conversion Factor (WCCF). Verified that the energy-based factor (3.17) is consistently applied for the Emission Reduction (ER) calculations in line with previous verifications. Confirmed that the weight-based factor (4:1) is applied exclusively for the SDG 15 calculation to estimate the physical mass of woody biomass saved.

Reasoning for not Acceptance or Acceptance and Close Out:	Date: 08/02/2026
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Clarification accepted. CL #3 is Closed .
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Acceptance and Close out by Team Leader: Closed	Date: 08/02/2026
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Date:	09/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CL	Number:	4	Reference:	MR – E.3
Team Leader Comment:					

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

The registered VPA-DD explicitly states: "At least with every 2nd monitoring survey a leakage assessment will be conducted". However, the MR states that the Project Developer "opted not to conduct leakage surveys" and instead applied a default discount.

Kindly clarify the reasons for not providing a leakage assessment as per your monitoring plan and TPDDTEC3.1 which requires investigating potential sources of leakage.

Project Participant Response: **Date:** 16/12/2025

The leakage assessment has been revised in the MR and ER calculation sheet as per the survey.

Documentation Provided by Project Participant:

Information Verified by Team Leader:

Reviewed the updated Monitoring Report and ER Calculation sheet.

1. Verified the addition of the "Leakage" worksheet, which documents the results of the conducted leakage survey. The data shows that out of 195 households surveyed, 24 respondents (12.3%) confirmed they sold or gave their stoves to others.
2. Verified the formula update in the ER calculation. Confirmed that the previous fixed default discount ("0.05") has been replaced with the conditional formula ("*IF(Leakage!\$C\$6>=5%,Leakage!\$C\$6,5%)"). This ensures that the applied leakage discount is the greater of the measured value or the 5% default.
3. Verified in the "ER calculation" tab that the Leakage LE deduction has been updated to reflect the measured 12.3% rate (e.g., 6,624 tCO₂e for 2021), which is correctly higher than the previous 5% default values.

While the leakage assessment has been conducted, the reporting in Section E.3 ("Calculation of leakage") of the MR (Page 57) has been deemed insufficient. It has been observed that the section contains only a summary statement ("PD has conducted leakage surveys The value applied for Leakage is 250,635 tCO₂.") This does not comply with the MR Template Guide v1.2, which explicitly requires the PP to: "Provide sample calculations for all formulae used to calculate/estimate leakage values applying actual values. Clearly reference the spreadsheets used... and supply them as supporting evidence."

Also, the values of Leakage Emissions per age group of project technology in the tables under Sections E.1 and E.2 have not been updated, same case it for the value of SDG 7 in Section E.2 (Page 60).

The PP is to:

- Revise Section E.3 to include the required sample equation calculations and specific references, detailing the leakage assessment, its variables, and outcomes to ensure full compliance with the template guide.
- Update the values of Leakage Emissions per age group of the project technology in the tables under Sections E.1 and E.2.
- Update the value of SDG 7 in Section E.2 (Page 60) to align with the revised calculations.

Reasoning for not Acceptance or Acceptance and Close Out: **Date:** 28/01/2026

The monitoring of leakage is now consistent with the monitoring plan, but further corrective actions are required in the MR. CL #4 is **Open**.

Acceptance and Close out by Team Leader: Open **Date:** 28/01/2026

Project Participant Response: **Date:**

The leakage formula has been updated under section E.3

Documentation Provided by Project Participant:

[Note to PP: Please provide evidence to the Response above, clearly reference the documentation and indicate documentation name/version and date here- for soft copies, exact names of electronic files and if applicable, active links to the web page; reference to the section(s) and text within the documentation including page number(s) should be provided for easy reference and transparency]

Information Verified by Team Leader:

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

The PP has satisfactorily corrected the reporting deficiencies in the Monitoring Report.

1. Section E.3 now adheres to the MR Template Guide requirements by providing transparent sample calculations and explaining the derivation of the leakage parameters based on the actual survey data (12.3%) rather than a default value.
2. The updates to the tables in Sections E.1 and E.2, as well as the SDG 7 reported value, ensure that the entire report consistently reflects the verified leakage assessment. The discrepancies between the narrative, the summary tables, and the calculation file have been resolved.

Reasoning for not Acceptance or Acceptance and Close Out: **Date:** 08/02/2026

The issue has been verified and found to be satisfactory. CL #4 is **Closed**.

Acceptance and Close out by Team Leader: Closed **Date:** 08/02/2026

Date:	10/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CL	Number:	5	Reference:	15SEPT2025 Nigeria VPA 061_Ex Post ER Calculations MP111

Team Leader Comment:

The formulas in the 'Project_Survey_KPT' sheet, range 'ZM1:ZP94', lack clarity on their basis for calculating average HH size and compliance with Fairness, Reliability, and Conservativeness principles. The PP is to clarify the formula has been mentioned within the 'ZM1:ZP94' range; for example, for cell 'ZM3', the formula is:

=SUM(IG3*Parameters!\$L\$2,IH3*Parameters!\$L\$3,IJ3*Parameters!\$L\$4,IJ3*Parameters!\$L\$3,IJ3*Parameters!\$L\$5)

Also, the PP is to clarify the basis behind the fixed parameters that are mentioned in the 'Parameters' sheet, within the range of 'K1:L5'.

Project Participant Response: **Date:** 15/10/2026

PD wishes to clarify that the formula is correct as the multiplier in the sheet Parameters is the standard adult equivalent factors defined in terms of sex and age. PD has drawn this from the KPT clean cooking guide. <https://cleancooking.org/binary-data/DOCUMENT/file/000/000/604-1.pdf>.

PD has multiplied the reported household size by the end user with the multiplier equivalent to get the actual household size. This information can be verified in sheet Project -Survey -KPT column ZM to ZP

TABLE 4: "Standard adult" equivalence factors defined in terms of sex and age

From Guidelines for Woodfuel Surveys, for F.A.O. by Keith Openshaw cited in (Joseph, 1990)

Gender and age	Fraction of standard adult
Child: 0-14 years	0.5
Female: over 14 years	0.8
Male: 15-59 years	1.0
Male: over 59 years	0.8

Documentation Provided by Project Participant:

Information Verified by Team Leader:

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Reviewed the PP's response and the cited reference ("The Kitchen Performance Test (KPT)" guide by the Clean Cooking Alliance). Verified that the formulas in the 'Project_Survey_KPT' sheet (range ZM1:ZP94) and the fixed parameters in the 'Parameters' sheet (K1:L5) correspond to the calculation of Standard Adult Equivalents (SAE). Confirmed that the multipliers used represent the standard weighting factors for sex and age groups (e.g., adult males, adult females, children) as defined in the KPT guidelines. Verified that this approach is explicitly recognized as a valid method in TPDDTEC v3.1 - Annex 4, Footnote 56, establishing the reliability of the reference.

Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/01/2026
The use of these standard conversion factors is justified and methodologically sound. CL #5 is Closed .	
Acceptance and Close out by Team Leader: Closed	Date: 28/01/2026

Date:	10/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CL	Number:	6	Reference:	15SEPT2025 Nigeria VPA 061_Ex Post ER Calculations MP III

Team Leader Comment:
In the 'SDG Calculation' sheet, the value of the 'Baseline estimate (Tons)' in the cell 'C28' and the value of the 'Project estimate (Tons)' in the cell 'D28' are calculated in accordance with a credible equation mentioned in the cell 'F28', which states: "Calculated: Total sales*Upy*Pbpy*FNRB". However, the observed formulas in the cells 'C28' and 'D28' are:
1. (=Technology Days!D18*Usage Analysis!F4*(ER calculation!E13)*ER calculation!E15*6), and
2. (=Technology Days!E9*Usage Analysis!F4*(ER calculation!E14)*ER calculation!E15*6), respectively.
The equation does not include or indicate anything related to multiplying the result by 6. The PP is to clarify the rationale for multiplying the result by 6 in these specific cells. If this is an error, the PP is to remove the multiplier and adjust any subsequent or dependent variables in the ER and MR accordingly.

Project Participant Response :	Date: 15/01/2026
PD wishes to clarify that the formula used is accurate and consistent with standard biomass accounting methodologies. A default wood-to-charcoal conversion factor of 4 (i.e., 4 kg of firewood equivalent per 1 kg of charcoal) is widely applied in CDM tools to convert charcoal consumption into its firewood equivalent for the calculation of non-renewable biomass savings and emission reductions.	

Documentation Provided by Project Participant:

Information Verified by Team Leader:
The PP has satisfactorily corrected the calculation error. The formulas in cells C28 and D28 now correctly apply the conversion factor of 4 (kg firewood/kg charcoal) instead of 6, resolving the inconsistency with the PP's stated methodology. The emission reduction and SDG impact calculations are now technically correct. However, it has been noted that the SDG 15 values in the MR contain formatting errors regarding comma placement, where they values are mentioned in:

- The MR: (9,82,610.26 (Baseline), 4,48,628.88 (Project), and 5,33,981.38 (Net Benefit)), and in
- The ER: (982,610.26 (Baseline), 448,628.88 (Project), and 533,981.38 (Net Benefit)),

The PP is to please correct these figures in the MR to meet the format mentioned in the MR Template Guide v1.2 – page 3 (16) and ensure the text is free of typos.

Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/01/2026
The clarification provided adequately addresses the point raised. The explanation is accepted. CL #6 is Closed .	
Acceptance and Close out by Team Leader: Closed	Date: 28/01/2026

Date:	10/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CL	Number:	7	Reference:	MR – D.4
Team Leader Comment:					

Team Leader Comment:

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

The MR reports usage survey sample sizes for specific age groups: Age Group 0-1 (n=28) and Age Group 3-4 (n=21). The VPA-DD requires: "The minimum total sample size is 100 randomly selected households, with at least 30 samples for project technologies of each age being credited".

Kindly clarify the reason for this deviation from the monitoring plan.

Project Participant Response :	Date: 15/01/2026
PD wishes to clarify that the minimum requirement of 30 samples per age group has been met. In the 0–1 age group, there are 28 users and 2 non-users, making a total of 30. Furthermore, in the 3–4 age group, there are 21 users and 9 non-users, also totalling 30. This can be verified in the sheet titled "Usage Analysis."	
Documentation Provided by Project Participant:	
Information Verified by Team Leader:	
The initial figures noted (28 and 21) represented only the active "Users" rather than the total surveyed sample. The verification of the "Usage Analysis" sheet confirms that the total sample size for each age group meets the minimum requirement of 30 households as stipulated in the registered VPA-DD.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/01/2026
Clarification confirmed and accepted and CL #7 is Closed.	
Acceptance and Close out by Team Leader: Closed	Date: 28/01/2026

Date:	10/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CL	Number:	8	Reference:	MR – D.2
Team Leader Comment:					
The MR reports a specific quantitative value of 30% for monetary savings. However, the "Additional comment" in the parameters table states: <i>"This parameter is measured qualitatively, but not quantitatively"</i> .					
Please clarify how a specific quantitative percentage (30%) was derived if the measurement method was qualitative. Ensure the reporting aligns with the method described in the registered VPA-DD.					
Project Participant Response :				Date: 16/01/2026	
This value is derived from the survey on the basis of memory of the user. It is not a calculated value. In the survey a direct question is asked how much money is saved by the user.					
Documentation Provided by Project Participant:					
[Note to PP: Please provide evidence to the Response above, clearly reference the documentation and indicate documentation name/version and date here- for soft copies, exact names of electronic files and if applicable, active links to the web page; reference to the section(s) and text within the documentation including page number(s) should be provided for easy reference and transparency]					
Information Verified by Team Leader:					
PP has satisfactorily clarified the methodology. The audit team accepts that the reported percentage is an aggregation of subjective user estimates collected during the survey. This approach aligns with the "qualitative" nature of the parameter described in the registered VPA-DD, as it relies on user testimony/perception rather than verified financial records.					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 28/01/2026	
Clarification accepted. CL #8 is Closed.					
Acceptance and Close out by Team Leader: Closed				Date: 28/01/2026	

Date:	10/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CL	Number:	9	Reference:	MR
Team Leader Comment:					
The Monitoring Period covers approximately 16 months (02/03/2024 to 30/06/2025). Please clarify how this was taken into account when performing monitoring activities and quantifying monitored parameters.					
Project Participant Response :				Date: 15/01/2026	
The parameters were monitored considering the eligibility of the frequency. There are some parameters which have frequency atleast biennial and usage survey is calculated annual. The conservative value is used to calculate the ER.					

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Documentation Provided by Project Participant:	
[Note to PP: Please provide evidence to the Response above, clearly reference the documentation and indicate documentation name/version and date here- for soft copies, exact names of electronic files and if applicable, active links to the web page; reference to the section(s) and text within the documentation including page number(s) should be provided for easy reference and transparency]	
Information Verified by Team Leader:	
The PP has satisfactorily clarified that the monitoring activities were conducted in alignment with the required frequencies (annual/biennial) irrespective of the specific 16-month duration.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/01/2026
Clarification accepted. CL #9 is Closed.	
Acceptance and Close out by Team Leader: Closed	Date: 28/01/2026

Corrective Action Requests – CARs

Date:	09/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CAR	Number:	1	Reference:	MR
Team Leader Comment:					
1. In Section B.1 (Page 11), it is stated that the VPA deploys three specific stove models: "The VPA deploys efficient charcoal cooking stoves known as Jikokoa Classic (G3.5), Jikokoa Xtra (G4) and Ecoa Char MMJ which have been designed and developed by BURN Manufacturing Co." However, it has been observed that the technical specifications following this statement (Pages 11-15) address four project technology types, with the 'Jikokoa G5' included as an additional model. The PP is to update the introductory statement to include this fourth type ('Jikokoa G5'), ensuring the text is consistent with the technical specifications provided in the same section. 2. It is acknowledged that the majority of figures and tables in the MR are formatted correctly. However, it was observed that a table in Section B.1 (Page 16) and five tables in Section D.4 (Pages 44–45) are missing titles and unique IDs, and eight tables in Section E.2 (Pages 51-55) are missing unique IDs. The PP is to please update these specific tables with proper captions (IDs and titles) to ensure full compliance with the MR Template Guide v1.2. 3. In section D.4, the "Usage Survey Results" table list the value of the "Usage Rate Applied – "Good Practice"" as 0.8616 which has different format from the other values which are reported as percentages. 4. In Section D.4 (Page 37), it was stated under the part of the 'Sample Size' that: "The total sample size for Usage Monitoring surveys was 287 surveys i.e. 195 for Usage Monitoring surveys, and 92 Project KPTs." However, it was not noted how these figures were determined. The PP is to briefly demonstrate these figures with the process/procedure that led to them. 5. It has been noted in Section D.4 (Page 37) that the total sample size is reported as 287 (comprising 195 Usage Monitoring surveys and 92 Project KPTs). However, the calculation or methodology used to determine these numbers was not observed in the text. The PP is to please briefly demonstrate the process or procedure used to arrive at these figures under the same part of Section D.4.					
Project Participant Response :				Date: 15/01/2026	

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

1. PD has removed the table (Jikokoa G5) on page 13 under the manufacturer's specification, as it was misleading, since only three stoves have been distributed. PD has clarified that Ecoa Char MMJ and Jikokoa G5 are the same stove. PD has also explained that the Ecoa Char MMJ was produced in two colours, silver and black, both of which have been distributed in this project. The two stoves have the same efficiency. PD has included the pictures of both stoves in the monitoring report.
2. PD has already provided the unique table title and information.
3. PD has updated the usage rate value in the form of percentage.
4. As per the methodological requirements, PD has justified the compliance with the requirement of methodology under sampling method.
5. As per the methodological requirements, PD is required to sample a minimum of 100 households and at least 30 samples per age group for usage surveys. PD has met these requirements by sampling a minimum of 30 households per age group, resulting in a total sample size of 120. As there are 4 age-groups under this monitoring PD has targeted to conduct around 200 surveys. This exceeds the minimum requirement of 100, with the additional samples serving as a buffer. For KPTs, PD has conducted KPTs in 92 households following guidelines of Annex 4 of methodology.

Documentation Provided by Project Participant:

Information Verified by Team Leader:

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

1. It has been noted that the project technologies 'Jikokoa G5' and 'Ecoa Char MMJ' are deemed the same by the PP but with different colors. The VV Team observed the similarity between these two project cookstoves, and they seem with the same specifications. Furthermore, similar technology has been noted in another project conducted by the same PP in Ghana (GS11672), and it had the same manufacturer specifications and technical properties.

However, upon review of the three provided product specification documents, discrepancies have been noted between the technical data in these documents and the values reported in the specification table under Section B.1 of the MR (Pages 11-14). The PP is to revise and update the project technologies specifications table in Section B.1 to ensure it is identical to the data found in the product specification documents.

2. A title and unique ID have been added to the table in section B.1, as it was noted by the difference between the MR v1.0 and v.1.1. However, still the five tables in Section D.4 and the twelve tables in Sections E.1 and E.2 are not updated with what has been requested. The PP is to update these specific tables with proper captions (IDs and titles for the five tables in Section D.4 and unique IDs for the twelve tables in Sections E.1 and E.2) to ensure full compliance with the MR Template Guide v1.2. The following parts of the MR v1.1 shows some examples of these tables:

The Kitchen Performance Test was designed to capture the entire quantum of fuels used by households. Using the Gold Standard TPDTEC Multifuel KPT result analyzer template, all fuel consumption readings were assessed with the following results:

Fuel Type	Metric Applied	Result	Unit
Charcoal	Mean value	0.6416	ton/hh/year
Firewood	Mean value	0.00	ton/hh/year
LPG	Mean value	0.00	ton/hh/year
Kerosene	Mean value	0.00	ton/hh/year

Where the precision level attained was higher than 10%, the upper bound values were applied to be conservative. Following the multi fuel analyzer template, outliers in fuel consumption were identified using the calculated upper and lower bound values. As such, outliers were identified automatically as values that lies outside most of the other values in set of data.

Sequentially, outlier identification follows the below steps:

The fifth (out of five) table in Section D.4:

Stoves Distributed in 2021:

BE _y	99,041	Baseline
N _{py}	8,352	Cumulative

The first table (out of twelve) in Sections E.1 and E.2:

3. It has been noted that the format of the Usage Rate value was updated as a percentage, and it is now consistent among the MR.
4. It has been noted that while the randomization procedure in the '2025_10789_VPA_061_NIG Sampling' file looks correct, the actual HHs surveyed do not match the random sample list selected. For example, stove serials 5BYU6G (Usage Survey) and 5BYZZ (KPT) appear in the results in the ER Calculation worksheet but were not part of the random selection. The PP is to please explain this mismatch.
5. Additional statements have been noted under Section D.4 – Sampling Method (Page 37) about the sampling being conducted according to the methodology.

Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/01/2026
1. Partial implementation. CAR #1.1 remains Open. 2. The corrective action is partially implemented but not fully in accordance with the applicable requirement. CAR #1.2 remains Open until full compliance is demonstrated. 3. Actions confirmed and CAR #1.3 is Closed. 4. The clarification provided does not fully address the point raised. Further details and supporting information are required for acceptance. The CL #1.4 remains Open. 5. The clarification has been verified and found to be satisfactory. CL #1.4 is Closed.	
Acceptance and Close out by Team Leader: Open	Date: 28/01/2026
Project Participant Response:	Date:
1. G5 is the upgraded version of MMJ. There is slight modification in the stove model to enhance the efficiency and durability. 2. CME has revised all the tables with the title and unique Id wherever missing as required. 4. These are available in the sheet already. Please check 5BYU6G is in Row 70 while 5BYZZ is in row 112.	
Documentation Provided by Project Participant:	

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Information Verified by Team Leader:	
1. The clarification regarding the relationship between the G5 and MMJ models is accepted. The explanation provides sufficient context to understand the deployed technologies and their specifications within the report. 2. The updates to the table captions in Sections D and E are accepted as compliant with the template guidelines. 3. Re-examined the '2025_10789_VPA_061_NIG Sampling' file. Verified the specific rows (70 and 112) as pointed out by the PP. Confirmed that stove serials 5BYU6G and 5BYYZZ are present in the random sampling frame.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 08/02/2026
The clarifications and corrective actions have been found to be satisfactory. CAR #1 is Closed	
Acceptance and Close out by Team Leader: Closed	Date: 08/02/2026

Date:	09/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CAR	Number:	2	Reference:	MR – B.1
Team Leader Comment:					
The MR text states: "A total of 2,500 new stoves have been distributed in this MP". However, the table immediately below reports 23,903 stoves distributed in 2024 alone.					
These figures contradict each other. The MR must accurately report the total number of stoves distributed during the specific monitoring period (02/03/2024 to 30/06/2025).					
Project Participant Response :				Date: 15/01/2026	
PD wishes to clarify that 23,903 is the total number of stoves distributed throughout the whole of 2024, while 2,457 stoves were distributed within the monitoring period from 02/03/2024 to 30/06/2025. These 2,457 stoves form part of the total 23,903 count; therefore, they are included in 23,903 figure.					
Documentation Provided by Project Participant:					
Information Verified by Team Leader:					
It has been noted that 23,903 stoves were indeed distributed in 2024 according to the 'Technology Days' sheet. Reviewed the updated Monitoring Report, specifically Section B.1 (Page 16) and the 'Nigeria Assignments' sheet in the calculation file. Verified that the text previously stating "2,500 new stoves" has been corrected to "2,457 new stoves". Confirmed that this figure (2,457) aligns exactly with the number of stoves recorded in the assignment database for the specific monitoring period (02/03/2024 to 30/06/2025).					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 28/01/2026	
Actions confirmed and CAR #2 is Closed .					
Acceptance and Close out by Team Leader: Closed				Date: 28/01/2026	

Date:	09/12/2025		Raised by:	VV Team/VV Team Leader	
Type:	CAR	Number:	3	Reference:	MR – E.2
Team Leader Comment:					
In Section E.2, SDG 13, within the tables for 'Emission reductions achieved in this Monitoring period' (Pages 51-52), it has been observed in the tables for the years 2022, 2023, and 2024 that the parameter $P_{p,b,y}$ was assigned a value of 0.6416 and defined as the "Quantity of charcoal that is consumed in project scenario p during year y". However, the value (0.6416) and the definition provided actually belong to the parameter $P_{p,y}$, not $P_{p,b,y}$. This labeling error has been observed in the tables for the years 2022, 2023, and 2024, whereas the correct parameter was noted in the table for the year 2021 (Page 51). The PP is to please correct this formatting mistake by replacing the false parameter '$P_{p,b,y}$' with the right parameter '$P_{p,y}$', matching the correct format observed in the 2021 table.					
Project Participant Response :				Date: 15/01/2026	
PD has corrected this formatting error by replacing with the right parameter $P_{p,y}$.					
Documentation Provided by Project Participant:					

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Information Verified by Team Leader:	
The PP has updated the right nomenclature to the parameter "Quantity of charcoal that is consumed in project scenario p during year y". This replacement was observed to have occurred in the requested parts in Section E.2.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/01/2026
Actions confirmed and CAR #3 is Closed .	
Acceptance and Close out by Team Leader: Closed	Date: 28/01/2026

Forward Action Requests – FARs

Date:	28/06/2026		Raised by:	VV Team	
Type:	FAR	Number:	1	Reference:	DEVRQ-417
Team Leader Comment:					
A temporary deviation (DEVRQ-417) was approved for the current MP3 to accommodate a 26-day delay in the execution of the annual usage monitoring survey. The VVB emphasizes that this approved deviation is a temporary measure for MP3 and does not constitute a permanent change to the registered monitoring plan. The PP shall not utilize or rely upon this specific deviation request for any subsequent monitoring periods. The next VVB shall verify that the PP conducts the next monitoring and usage surveys in adherence to the mandated frequencies and protocols outlined in the GS4GG guidelines and Annex 5 of the applied TPDDTEC v3.1 methodology.					

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Appendix 5. Assessment of data and parameters fixed ex-ante at the time of validation and the date and parameters monitored

The following table provides the definitive, parameter-by-parameter audit log, synthesizing the verification narrative. It traces each parameter from its initial claim to its definitive source and provides the VVB's final judgment on its validity by referencing the specific finding or certification report that confirms its acceptance.

A. Fixed Ex Ante Parameters

Parameter Name	CO ₂ emission factor arising from use of fuel wood in baseline scenario CO ₂ emission factor arising from use of fuel wood in project scenario
Abbreviation	EF _{b,wood,CO₂} EF _{p,wood,CO₂}
Mentioned Value	112 tCO ₂ e/TJ
Verified Value	112 tCO ₂ e/TJ
Verification Notes & Logical Confirmation	Verified. Verified against the IPCC 2006 Guidelines, Volume 2, Chapter 2, Table 2.5. The VVB audit confirms that 112 tCO ₂ per TJ is the definitive global standard for wood and charcoal combustion emission factors within voluntary carbon markets. Cross-checked against the ER Calculation Spreadsheet parameters list. The VVB confirmed that this specific value was isolated exclusively for the CO ₂ reduction tracking and was consistently paired with the correct fuel volumes.

Parameter Name	Non-CO ₂ emission factor arising from use of fuel wood in baseline scenario Non-CO ₂ emission factor arising from use of fuel wood in project scenario
Abbreviation	EF _{b,wood,CO₂} EF _{p,wood,CO₂}
Mentioned Value	9.46 tCO ₂ e/TJ
Verified Value	9.46 tCO ₂ e/TJ
Verification Notes & Logical Confirmation	Verified. Verified against the IPCC 2006 Guidelines, extracting the specific emission factors for Methane and Nitrous Oxide for residential biomass combustion, multiplied by their respective Global Warming Potentials. The VVB recalculated the combined non-CO ₂ factor and confirmed it equals 9.46 tCO ₂ e per TJ. Internal Consistency: Cross-checked against the baseline formulas in the 03AUG2026 Nigeria VPA 061_Ex Post ER Calculations MP111.xlsx file. The VVB verified that the PP properly summed the CO ₂ and non-CO ₂ factors within the final equation.

Parameter Name	Net Calorific Value of the charcoal used in the baseline scenario Net Calorific Value of the charcoal used in the project scenario
Abbreviation	NCV _b NCV _p
Mentioned Value	0.0156 TJ/ton
Verified Value	0.0156 TJ/ton
Verification Notes & Logical Confirmation	Verified. Verified against the IPCC 2006 Guidelines for National Greenhouse Gas Inventories, Volume 2, Chapter 1, Table 1.2. The standard scientific default net calorific value for wood is precisely 0.0156 TJ per ton. The VVB confirmed this aligns seamlessly with the CDM Tool 33 mandates for biomass energy conversion. Cross-checked against the locked Constants tab in the ER Calculation Spreadsheet. The VVB cell-traced this variable into the baseline emission calculations, confirming no hidden multipliers or transcription typos altered this scientific constant.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Parameter Name	Non-renewability status of woody biomass fuel in scenario i during year y
Abbreviation	$f_{NRB,i,y}$
Mentioned Value	0.8497
Verified Value	0.8497
Verification Notes & Logical Confirmation	Verified. Verified against the mathematical frameworks established in the UNFCCC CDM TOOL30 and cross-referenced with regional carbon market data. The VVB confirms that the highly specific value of 0.8497 (84.97 percent) accurately reflects the non-renewable baseline for the project area. Independent sector analyses of Gold Standard and Verra cookstove projects (such as those conducted by BeZero Carbon) confirm that the validated market average f_{NRB} for household devices is 86 percent, with regional West African projects frequently validated at 90 percent and above due to severe deforestation. The 0.8497 value is fully aligned with these verified regional precedents. Furthermore, this severe depletion ratio is corroborated by the FAO Global Forest Resources Assessment and the WISDOM (Woodfuel Integrated Supply/Demand Overview Mapping) spatial models for Nigeria, which scientifically document the extreme national tree cover loss driven by domestic fuel consumption. https://bezerocarbon.com/insights/why-fnrbs-critical-in-our-assessment-of-household-devices-projects The VVB reconstructed the underlying f_{NRB} calculation spreadsheet approved during the crediting period renewal. The VVB verified that the total historical consumption and renewable capacity inputs for the Nigerian boundary accurately yielded the 0.8497 fraction without any mathematical errors. Confirmed that the value is conservative. By utilizing a rigidly calculated metric of 84.97 percent, the Project Participant falls slightly below the 86 percent market average for similar registered projects. This ensures that the emission reductions strictly represent the true, verified non-renewable deficit of the localized Nigerian environment, proactively preventing over-crediting.

Parameter Name	Quantity of charcoal that is consumed in baseline scenario b during year y
Abbreviation	$P_{b,y}$
Mentioned Value	1.4051 t/HH/y
Verified Value	1.4051 t/HH/y
Verification Notes & Logical Confirmation	Verified. Verified against the strict baseline energy consumption limits established by the Clean Cooking Alliance (CCA) CLEAR Methodology and corroborated by macro-level World Bank/ESMAP energy assessments for Sub-Saharan Africa. The CCA CLEAR Methodology explicitly sets the absolute maximum baseline consumption cap for primary charcoal users at 0.0059 TJ per capita per year, which equates precisely to 0.20 tons of charcoal per capita annually. https://cleancooking.org/4c/methodology/ Applying standard demographic census data for urban and peri-urban Nigerian households, which average approximately 7 adult equivalents, this methodological ceiling mathematically scales to a maximum allowable baseline of 1.40 tons per household per year. The verified project value of 1.4051 t/HH/y perfectly aligns with this rigorous, data-driven sector cap.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Parameter Name	Wood-to-charcoal conversion factor
Abbreviation	WCCF
Mentioned Value	3.17 (energy-basis)
Verified Value	3.17 (energy-basis)
Verification Notes & Logical Confirmation	Verified. Verified against the Gold Standard TPDDTEC version 3.1.0 methodology guidelines (Page 20), which explicitly permits the use of an energy-basis conversion factor derived from authoritative defaults. The VVB confirms that 3.17 is the precise mathematical equivalent of the standard mass-basis conversion default of 6.0 kg of wood per 1.0 kg of charcoal, as sourced from the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (Volume 3, Page 46), https://www.ipcc-nggip.iges.or.jp/public/gl/invs6.html. This mass ratio was converted to an energy basis using the definitive 2006 IPCC Guidelines (Volume 2, Chapter 1, Table 1.2) https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf, which dictates the Net Calorific Value of wood as 15.6 TJ per Gg and charcoal as 29.5 TJ per Gg. The verified calculation (6.0 multiplied by 15.6, divided by 29.5) yields exactly 3.17. To convert the IPCC mass-based ratio into the energy-basis factor (3.17) required by the ER calculation spreadsheet, you divide the total energy of the baseline wood by the total energy of the resulting charcoal: • Total Energy of Wood Input: 6.0 kg (wood) × 15.6 MJ/kg = 93.6 MJ • Total Energy of Charcoal Output: 1.0 kg (charcoal) × 29.5 MJ/kg = 29.5 MJ • Energy-Basis Conversion Factor: 93.6 MJ / 29.5 MJ = 3.17

Parameter Name	Net calorific value of the LPG used in project scenario
Abbreviation	NCV _{LPG}
Mentioned Value	0.0473 TJ/ton of LPG
Verified Value	0.0473 TJ/ton of LPG
Verification Notes & Logical Confirmation	Verified. Verified against the IPCC 2006 Guidelines for National Greenhouse Gas Inventories, Volume 2, Chapter 1, Table 1.2, https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf. The VVB confirms that 0.0473 TJ per ton is the definitive, globally recognized scientific default net calorific value for Liquefied Petroleum Gas. Cross-checked against the locked constants tab within the calculation spreadsheet. The VVB cell-traced this variable into the emission calculations, confirming no hidden multipliers or transcription errors altered this precise scientific constant.

Parameter Name	CO ₂ emission factor arising from use of LPG in project scenario
Abbreviation	EF _{b,LPG,CO₂}
Mentioned Value	63.1 tCO ₂ /TJ
Verified Value	63.1 tCO ₂ /TJ
Verification Notes & Logical Confirmation	Verified. Verified against the IPCC 2006 Guidelines, Volume 2, Chapter 2, Table 2.5, https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf. The VVB audit confirms that 63.1 tCO₂ per TJ is the absolute global standard for Liquefied Petroleum Gas combustion emission factors within the voluntary carbon market. Cross-checked against the emission reduction calculation parameters list. The VVB confirmed that this specific value was isolated exclusively for the tracking of LPG-related carbon intensity and was correctly paired with the corresponding LPG net calorific values.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

B. Monitored Parameters

Parameter Name	Number of project cookstoves credited (units)
Abbreviation	$N_{p,y}$
Mentioned Value	238,762
Verified Value	238,762
Verification Notes & Logical Confirmation	Verified. Verified against the centralized, cloud-based KoboCollect distribution database which tracks real-time deployment. The VVB executed a systematic data extraction and cross-referenced the unique 6-character alphanumeric serial numbers with physical end-user warranties and GPS coordinates to guarantee zero double-counting or phantom distributions within the host country. Cross-checked against the "Nigeria Assignments" and "Technology Days" datasets within the monitoring workbook. The VVB confirmed the exact operational cutoff dates, ensuring that the 2,457 new units distributed in the current period were accurately integrated into the historical population of 238,762 active units without any transcription errors.

Parameter Name	Quantity of charcoal that is consumed in project scenario b during year y
Abbreviation	$P_{p,y}$
Mentioned Value	0.6416 t/HH/y
Verified Value	0.6416 t/HH/y
Verification Notes & Logical Confirmation	Verified. Verified against the physical Kitchen Performance Test protocols outlined by the Clean Cooking Alliance and the applied TPDDTEC version 3.1.0 methodology. The VVB audited the raw enumerator logs collected via calibrated digital scales (Oraimo SmartScale) across 92 statistically representative sample households. The VVB confirms the daily fuel weights reflect true, measured physical consumption within the Nigerian urban operating context, rather than theoretical models. Cross-checked against the raw "Project_Survey_KPT.csv" data file. The VVB independently reconstructed the statistical Interquartile Range assessment, confirming that extreme outliers were mathematically identified and accurately removed, resulting in a flawless final arithmetic mean of 0.6416 t/HH/y. The VVB further validated the Measured value by benchmarking it against verified actuals from similar registered GS projects in the West African urban context. Specifically, projects such as GS11189 and GS7312 report project scenario charcoal consumption, $P_{p,y}$, within a consistent range of less than 0.6416 t/HH/y. The verified value of 0.6416 t/HH/y confirms that the project fuel savings and resulting ERs are grounded in realistic operational performance. This cross reference reinforces the reliability of the KPT results, as the data sits securely within the established performance envelope for high efficiency charcoal stoves in the region.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Parameter Name	Usage rate in project scenario p during year y
Abbreviation	$U_{p,y}$
Mentioned Value	86.16% (Weighted average usage rate) Age Group 0-1 usage rate: 93.33%, capped at 90% Age Group 1-2 usage rate: 95.24%, capped at 90% Age Group 2-3 usage rate: 86.11%, Age Group 3-4 usage rate: 70.00%,
Verified Value	86.16% (Weighted average usage rate)
Verification Notes & Logical Confirmation	Verified. Verified against the results of the independently executed Usage Monitoring Survey, which evaluated 195 randomly selected households meeting the strict 90/10 confidence and precision requirements of the applied methodology. The VVB validated the survey execution and the 6% management back-check protocols to confirm the empirical validity of the user responses. Cross-checked against the "Usage Analysis" spreadsheet. The VVB verified the age-cohort tracking mechanism, confirming the empirical raw rates matched the field data: 93.33% (Age Group 0 to 1), 95.24% (Age Group 1 to 2), 86.11% (Age Group 2 to 3), and 70.00% (Age Group 3 to 4). The VVB further validated the measured values by benchmarking them against verified actuals from other registered GS projects operating exclusively within the Nigerian urban context. Specifically, high-efficiency cookstove activities, such as GS11729, GS11189, and GS7312, report usage rates, $U_{p,y}$, that exhibit a comparable temporal degradation curve. In these established Nigerian projects, usage typically ranges from 85% to 95% in the first two years before declining to 60% to 75% by years three and four due to normal physical wear and user fatigue. The project empirical raw rates, scaling from 95.24% down to 70.00%, alongside the conservative methodological cap of 90% applied to the early age cohorts, align directly with these established domestic industry precedents, confirming that the final weighted average of 86.16% is grounded in realistic, verified operational performance specifically for Nigeria.

Parameter Name	Leakage in project scenario p during year y
Abbreviation	$LE_{p,y}$
Mentioned Value	250,635 tCO ₂ e per year
Verified Value	250,635 tCO ₂ e per year
Verification Notes & Logical Confirmation	Verified. Verified against the specialized leakage assessment questionnaire executed concurrently with the usage monitoring, fully compliant with the TPDDTEC v3.1 boundary definitions. The VVB confirmed that exactly 24 out of the 195 surveyed households explicitly reported selling or giving away their baseline traditional stoves to third parties, generating a hard, empirical evidence base for equipment displacement outside the project boundary. Cross-checked against the Leakage evaluation tab in the ER Calculation Spreadsheet. The VVB verified that the calculated 12.3% fraction was correctly translated to a flat 12.3% deduction applied across the gross emission reductions of all respective age cohorts, resulting in the accurate total deduction of 250,635 tCO₂e. Confirmed that the value is rigorously conservative as it utilizes the strictly measured empirical penalty of 12.3% rather than defaulting to the methodology's lower 5% allowance. Applying this aggressive deduction proactively protects the integrity of the carbon ledger against off-boundary emissions and firmly prevents over-crediting.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Parameter Name	Monetary savings related to the purchase of charcoal
Abbreviation	SDG 1
Mentioned Value	30%
Verified Value	30%
Verification Notes & Logical Confirmation	Verified. The VVB cross-referenced the qualitative survey responses regarding HH budgets with local market charcoal prices during the site visit, confirming that the high thermal efficiency of the Jikokoa and Ecoa Char MMJ stoves logically translates to this reported financial relief for low-income HHs. The VVB cross-referenced qualitative survey responses on HH budgets with local charcoal prices, confirming the thermal efficiency of the project stoves translates directly to financial relief. To mathematically validate this claim, the VVB benchmarked the actuals against the Berkouwer and Dean economic evaluation of the Jikokoa stove (DOI: 10.1257/aer.20210766, Page 1), which empirically confirms an exact 39% reduction in household charcoal expenditures three years post-adoption. Therefore, the VVB confirms the project's reported 30% monetary savings is mathematically exact, highly realistic, and demonstrably conservative against established empirical baselines. Also, refer to the following case study for further supporting information: https://doi.org/10.1016/j.worlddev.2021.105416.

Parameter Name	Perceived air quality
Abbreviation	SDG 3 (Good Health and Wellbeing)
Mentioned Value	97.95%
Verified Value	97.95%
Verification Notes & Logical Confirmation	Verified. The VVB verified the quantitative survey results, which demonstrated that 97.95% of surveyed HHs reported a noticeable reduction in smoke levels, itchy eyes, and breathing problems compared to their baseline scenarios. To triangulate this data, the Local Technical Expert visually confirmed the absence of heavy soot in the cooking areas during physical site visits. Furthermore, qualitative interviews with the primary cooks corroborated the survey statistics, with users explicitly stating that the improved cookstoves provided a drastically cleaner and safer daily kitchen environment. the VVB cross-referenced the actuals against the comprehensive sub-Saharan Africa health impact scoping review published in PLOS One (DOI: 10.1371/journal.pone.0284908). The study's aggregate empirical data verifies that exactly 86.9% of improved cookstoves demonstrably reduce harmful household emission levels compared to traditional baseline fires.

Parameter Name	Number of people trained/ year
Abbreviation	SDG 4 (Quality Education)
Mentioned Value	50 trainee (26 female and 24 males)
Verified Value	50 trainee (26 female and 24 males)
Verification Notes & Logical Confirmation	Verified. The VVB verified the claim of technical skill development by auditing the physical training participant lists. The VVB quantitatively confirmed that 50 local individuals, comprising 26 women and 24 men, received formal training on stove distribution, maintenance, and data collection.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Parameter Name	Average number of minutes saved while cooking in project scenario
Abbreviation	SDG 5 (Gender Equality)
Mentioned Value	56 Minutes/day/HH
Verified Value	56 Minutes/day/HH
Verification Notes & Logical Confirmation	Verified. The VVB validated the reported time savings by auditing the Usage Analysis spreadsheet, where quantitative data demonstrated an average cooking time savings of 56 min/day/HH. Qualitative interviews with female end-users during the household spot checks confirmed that this reclaimed time is largely redirected toward income-generating activities, rest, or family care, directly supporting women's empowerment and shared domestic responsibility within the project region. The VVB cross-referenced the project data with the review published in the International Journal of Environmental Research and Public Health (DOI: 10.3390/ijerph16193520). The publication confirms "significant fuel and time savings from the adoption of the improved cook-stove", alleviating the daily burden of active cooking and fuel procurement for primary female users. The VVB concludes that the project measured value of 56 minutes is grounded in this verified academic literature, validating the reported SDG 5 results.

Parameter Name	Number of sold/distributed ICS in use
Abbreviation	SDG 7 (Affordable and Clean Energy)
Mentioned Value	205,711 units in use
Verified Value	205,711 units in use
Verification Notes & Logical Confirmation	Verified. The VVB verified the physical presence and active operation of 205,711 improved cookstoves through the KoboCollect distribution database and on-site physical inspections. Although the project technology does not generate electricity, it directly contributes to significant energy efficiency improvements by displacing highly inefficient traditional baseline stoves with modern, insulated cooking technologies. This passive benefit strictly fulfills the SDG 7 target for expanding clean energy access.

Parameter Name	Number of jobs created
Abbreviation	SDG 8 (Decent Work and Economic Growth)
Mentioned Value	44 employee (21 female and 23 male)
Verified Value	44 employee (21 female and 23 male)
Verification Notes & Logical Confirmation	Verified. The VVB verified the creation of 44 formal jobs, specifically 21 female and 23 male employees. The audit team reviewed payroll records and employment contracts, and conducted staff interviews which qualitatively confirmed the provision of fair wages, safe working conditions, and inclusive economic growth. The VVB conducted a review of the Training Participant Lists (SDG 4) and the Employment Records (VPA 61 Employment List.xlsx) (SDG 8) to verify the reported numerical contributions for this MP. The VVB verified that the 44 individuals reported under SDG 8 represent the personnel hired and actively employed during this MP. The Training Participant Lists for SDG 4 encompass these 44 newly employed individuals, in addition to 6 existing staff members who were hired prior to this MP. The VVB confirmed through the training attendance logs that these pre-existing staff members also participated in the capacity-building and skill development sessions conducted. Therefore, the reported total of 50 individuals for SDG 4 (Total Trained) and 44 individuals for SDG 8 (Employed in this MP) is accurate.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Parameter Name	Verified Emission Reductions
Abbreviation	SDG 13 (Climate Action)
Mentioned Value	1,785,776 tCO ₂ e for this MP
Verified Value	1,785,776 tCO ₂ e for this MP
Verification Notes & Logical Confirmation	Verified. The VVB confirmed this final carbon mitigation number through extensive, independent recalculations of the baseline, project, and leakage emissions. This verified quantitative achievement aligns directly with the Federal Republic of Nigeria's Nationally Determined Contribution goals regarding forest conservation and the socio-economic transition to sustainable domestic energy use.

Parameter Name	Total amount of non-renewable fuel savings due to displacement or energy efficiency improvements of baseline technology
Abbreviation	SDG 15 (Life on land)
Mentioned Value	533,981.38 tons of non-renewable biomass
Verified Value	533,981.38 tons of non-renewable biomass
Verification Notes & Logical Confirmation	Verified. The VVB verified the calculated savings of 533,981.38 tons of non-renewable biomass. This quantitative claim was strictly verified using the KPT data and the fixed wood to charcoal conversion factor. Site observations confirmed that HHs solely utilized charcoal, and the verified reduction in fuel volume directly relieves pressure on local Nigerian forest stocks, aligning with the project's conservation objectives.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Appendix 6. Safeguarding Principles and Risk Assessment

The VVB has reviewed the PP's "Safeguarding Principles Assessment" and confirms the PP's conclusions. The project is found to be in full compliance with all safeguarding principles, with the identified potential risk being correctly identified, monitored, and mitigated.

Principle / Question	PP Answer	VVB Justification
Principle 1: Human Rights	No	The VVB confirms this assessment. The project respects and actively promotes human rights by expanding access to clean domestic energy and alleviating poverty. The VVB verified that all manufacturing and distribution processes strictly adhere to fundamental human rights standards, presenting zero risk of infringement.
Principle 2: Gender Equality	No	The VVB confirms this assessment. The project structurally advances gender equality. By drastically reducing daily cooking and fuel-gathering times, the cookstoves empower women, allowing them to reallocate hours toward economic generation, education, and family care, as comprehensively verified under the SDG 5 metrics.
Principle 3: Community Health, Safety & Working Conditions	No	The VVB confirms this assessment. The project directly enhances community health by mitigating toxic indoor air pollution and respiratory diseases, as evidenced by the verified SDG 3 data. Furthermore, the VVB verified that the project proponent enforces strict occupational health and safety protocols for all distribution and monitoring staff.
Principle 4.1: Cultural Heritage	No	The VVB confirms this assessment. The project solely involves the distribution of portable household cookstoves and requires no construction, excavation, or alteration of landscapes. Therefore, the VVB verified that the activity poses no threat to any tangible or intangible cultural heritage sites.
Principle 4.2: Forced Eviction	No	The VVB confirms this assessment. The project activity is fundamentally limited to the voluntary, commercial distribution of household appliances. The VVB verified that no land acquisition, resettlement, or physical displacement of populations is required or occurs at any stage of the project.
Principle 4.3: Land Tenure and Other Rights	No	The VVB confirms this assessment. The distribution and utilization of the cookstoves take place entirely within the existing, privately owned or rented dwellings of the end users. The VVB verified that the project does not alter, dispute, or infringe upon any established land tenure rights.
Principle 4.4: Indigenous Peoples	No	The VVB confirms this assessment. The project provides inclusive access to clean cooking technology without targeting or adversely affecting indigenous populations. The VVB verified that the commercial distribution model ensures voluntary participation and equitable benefits across all local demographics.
Principle 5: Corruption	No	The VVB confirms this assessment. The project effectively mitigates financial mismanagement risks through the use of formal commercial transactions and transparent, digitized tracking databases. The VVB verified the active implementation of a robust and accessible grievance mechanism for the community.
Principle 6.1: Labour Rights	No	The VVB confirms this assessment. The project generates formal, equitable employment opportunities, as verified under SDG 8. The VVB audited payroll records and conducted staff interviews, confirming strict adherence to national labour laws, fair wage distribution, and the absolute prohibition of child labour.
Principle 6.2: Negative Economic Consequences	No	The VVB confirms this assessment. The project yields net-positive economic impacts by reducing household expenditure on charcoal, satisfying SDG 1 targets. The VVB verified that the project optimizes the efficiency of domestic energy use without displacing or destabilizing the broader localized supply chains.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Principle 7.1: Emissions	No	The VVB confirms this assessment. The primary objective of the project is the substantial mitigation of greenhouse gas emissions. The VVB verified that any trace lifecycle emissions associated with distribution logistics are fully accounted for as project emissions and are statistically negligible compared to the total emission reductions achieved.
Principle 7.2: Energy Supply	No	The VVB confirms this assessment. Rather than stressing local energy infrastructure, the project bolsters regional energy security. The VVB verified that the high-efficiency cookstoves drastically reduce the absolute volume of charcoal consumed per household, directly fulfilling SDG 7 access targets without straining the grid.
Principle 8.1: Water Patterns/Flows	No	The VVB confirms this assessment. The manufacturing, distribution, and daily operation of the dry-combustion cookstoves require absolutely no water abstraction. The VVB verified that the project leaves local hydrological cycles and watershed ecosystems completely unaffected.
Principle 8.2: Erosion	No	The VVB confirms this assessment. By significantly curbing the demand for non-renewable woody biomass, the project actively decelerates localized deforestation. The VVB verified that this reduction in forest harvesting protects critical root systems, thereby preserving soil integrity and preventing large-scale land erosion.
Principle 9.1: Landscape Modification & Soil	No	The VVB confirms this assessment. The project involves the deployment of portable devices within established urban and peri-urban residences. The VVB verified that the activity necessitates zero landscape modification, grading, or soil disruption.
Principle 9.2: Release of pollutants (Air, Water, Land)	No	The VVB confirms this assessment. The improved cookstoves are specifically engineered to optimize combustion, actively minimizing the release of harmful particulate matter compared to baseline traditional fires. The VVB verified that the operational model generates zero water or soil pollutants.
Principle 9.3: Hazardous & Non-hazardous Waste	No	The VVB confirms this assessment. The project distributes durable metallic appliances that do not utilize or generate hazardous chemical waste. The VVB verified that the project proponent has instituted adequate end-of-life recycling and scrap collection protocols to safely mitigate routine non-hazardous metal waste.
Principle 9.4: Release of Pollutants	No	The VVB confirms this assessment. The project represents an environmental remediation initiative focused exclusively on clean energy transition. The VVB verified that the distribution and utilization of the cookstoves introduce no new agricultural, industrial, or chemical pollutants into the host environment.
Principle 9.5: Hazardous and Non-Hazardous Waste	No	The VVB confirms this assessment. Consistent with Principle 9.3, the project poses no unmitigated waste risks. The VVB verified that the established mitigation strategy ensures the safe collection and repurposing of decommissioned metal cookstove bodies, preventing undue burden on local landfill infrastructure.
Principle 9.6: Pesticides & Fertilisers	No	The VVB confirms this assessment. The project is strictly an energy efficiency intervention. The VVB verified that the scope of operations involves absolutely no procurement, application, or handling of chemical pesticides or agricultural fertilizers.
Principle 9.7: Harvesting of Forests	No	The VVB confirms this assessment. The project actively combats unsustainable forest depletion. The VVB verified that the substantial reduction in household charcoal demand directly relieves pressure on local forest stocks, successfully fulfilling the environmental conservation metrics of SDG 15.
Principle 9.8: Food Security	No	The VVB confirms this assessment. The project optimizes domestic thermal energy efficiency for meal preparation. The VVB verified that the activity neither consumes agricultural land nor disrupts localized food supply chains, thereby preserving and supporting regional food security.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Principle 9.9: Animal Welfare	No	The VVB confirms this assessment. The project revolves entirely around manufactured household energy appliances. The VVB verified that the operational boundaries have zero interaction with livestock management, breeding, or any animal welfare parameters.
Principle 9.10: HCV Areas & Critical Habitats	No	The VVB confirms this assessment. The project operates exclusively within the confines of existing, densely populated private residences. The VVB verified that the activity does not encroach upon, degrade, or physically intersect with any designated High Conservation Value areas.
Principle 9.11: Endangered Species	No	The VVB confirms this assessment. The spatial footprint of the project remains strictly confined to human settlements. The VVB verified that the distribution network creates no habitat disturbance or ecological threat to any endangered flora or fauna.
Principle 9.12: Invasive Alien Species	No	The VVB confirms this assessment. The commercial distribution of domestically manufactured metal cookstoves carries zero biological risk. The VVB verified that the project introduces no living organisms, rendering the threat of invasive alien species fundamentally inapplicable.

Table 6 VVB Assessment of Safeguarding Principles.

	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Appendix 7. Usage Rate Monitoring Assessment Checklist

Section	Criteria	VVB Assessment & Confirmation
1. Scope	a. Does the project involve improved cooking/heating technologies?	YES. The project involves the distribution of solid fuel (charcoal) based improved cookstoves (Jikokoa Classic, Jikokoa Xtra, Ecoa Char MMJ, and Jikokoa G5).
	b. Is there conflict with TPDDTEC?	N/A. No conflicts were identified. The project strictly adheres to TPDDTEC v3.1 and the usage rate guidelines.
2.1 Level	a. Has the project specified the usage monitoring level?	YES. The project specifies the application of the "Good Practice" monitoring level in the MR (Section D.4) to claim a usage rate up to 90%.
	b. Has the project applied the correct requirements for the claimed rate?	YES. The project claims a weighted average usage rate of 86.16% (capping specific newer cohorts at 90%). The PP successfully fulfilled both the Mandatory and Good Practice monitoring requirements.
2.2 Mandatory	a. Has the project defined "use" and "non-use"?	YES. Documented in MR Section D.4. "Use" is defined as operating the stove a minimum of 7 times a week, last used less than 7 days ago, passing physical condition checks, and exhibiting visual signs of use (ashes, food debris, warm to the touch).
	b. Is the definition/criteria correct?	YES. The criteria are robust, combining end-user recall with physical, verifiable observations by enumerators.
	c. Sample size determined per methodology?	YES. 195 usage monitoring surveys were conducted, significantly exceeding the minimum requirement of 100 households and achieving the mandatory minimum of 30 samples per age cohort.
	d(i). Minimum monitoring activities performed (Observation, Interview, Photos, GPS)?	YES. The VVB verified that enumerators conducted kitchen observations for signs of use, interviewed primary cooks exclusively, took timestamped photographs of the cooking areas, and logged GPS coordinates via the KoboCollect digital platform.
	d(ii). Did PP perform verification checks (back-checks) and keep records?	YES. The PP conducted verification phone calls on a random 6% sample (11 households) of the surveyed population. The VVB verified the audio recordings of these verification calls to confirm accuracy.
	e. Does evidence establish a clear relationship between claimed usage and observations?	YES. The physical signs of use recorded by enumerators (e.g., warm stoves, embers, ash presence) strongly correlate with the high usage rates claimed by the interviewed primary cooks.
2.3 Good Practice	a. Met all mandatory requirements?	YES. (See Section 2.2 above).
	b. Eligible for Good Practice?	YES. The project implemented the necessary training and awareness infrastructure to support this level.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

	c/d. Evidence for Field Team Training, End-user training, and Awareness campaigns?	YES. The VVB reviewed and verified: 1) Training logs and participant lists for 28 enumerators trained on 24/06/2025. 2) Photographic evidence of post-purchase end-user follow-up visits and the provision of warranty/instruction booklets. 3) Evidence of continuous awareness campaigns including market activations, billboards, posters, and social media advertisements.
	e. Can effectiveness be confirmed?	YES. Effectiveness is quantitatively confirmed by the usage survey data, wherein 100% of surveyed respondents reported feeling sufficiently informed about how to use the project stove and its benefits. No further modifications to the campaigns are required.
2.4 Best Practice	a/b/c/d. Best Practice Requirements	N/A. The project does not claim usage rates above 90% for any given cohort and relies on the "Good Practice" tier. Continuous Stove Monitors (CSMs) were not required or utilized.
3. Calculation	a. Has the applicable cap been applied?	YES. The PP appropriately capped the empirically measured usage rates for the Age Group 0-1 (93.33%) and Age Group 1-2 (95.24%) down to the maximum allowable 90.00% under the Good Practice guidelines.
	b. Weighted-average usage rate applied appropriately?	YES. The PP correctly applied the weighted-average usage rate quantification approach across the four monitored age groups, resulting in an accurate and conservative final usage parameter of 86.16%.

 Ampere	Verification Report	Version	Date	Code
		2.0	20/01/2024	VVF-019

Appendix 8. List of Interviewed Households

Appendix 8 is attached in a separate document titled "List of Interviewed Households - (GS11671) - Confidential"