


**Verification report for GS4GG Programme of Activity  
(Gold Standard for the Global Goals)**

**BASIC INFORMATION**

<b>Title of the GS4GG Project</b>	GS10789 VPA 5 Efficient and Clean Cooking for households in Democratic Republic of Congo (DRC)
<b>GS ID of Project</b>	GS11433
<b>Version number of the verification and certification report</b>	3.1
<b>Completion date of the verification and certification report</b>	17/06/2023
<b>Monitoring period number and duration of this monitoring period</b>	1 <sup>st</sup> monitoring period Duration: 01/01/2021 to 01/04/2022 (inclusive of both days)
<b>Version number of the monitoring report to which this report applies</b>	1.7 Dated: 13/06/2023
<b>Coordinating/managing entity (CME)</b>	BURN Manufacturing Co.
<b>Project Representative(s)</b>	BURN Manufacturing Co.
<b>Host Party</b>	Democratic Republic of Congo
<b>Applied methodologies and standardized baselines</b>	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), Version 3.1
<b>Activity requirements applied</b>	<input checked="" type="checkbox"/> Community Services Activities <input type="checkbox"/> Renewable Energy Activities <input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities <input type="checkbox"/> N/A
<b>Mandatory sectoral scopes</b>	Sectoral Scope 3: Energy Demand
<b>Product requirements applied</b>	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A

Sustainable Development Goals Targeted	SDG Impact	Amounts Achieved	Units/Products
<b>SDG:13 Climate Change</b>	Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	27,255	VERs (tCO2e)
<b>SDG:1 End poverty in all its forms everywhere</b>	1.4.1 Proportion of population living in households with access to basic services (efficient cook stoves)	45.20%	Equivalent monetary savings in %
<b>SDG:3 Ensure healthy lives and promote well-being for all at all ages</b>	3.9.1 Illnesses and Mortality rate attributed to household and ambient air pollution	98.94% Users reported a decrease	Measurement of user perceptions between the baseline and project scenario: smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes
<b>SDG:7 Ensure access to affordable, reliable, sustainable and modern energy for all</b>	Target 7.1 and 7.B	8,832	Number of sold/distributed ICS in use
<b>SDG:8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</b>	No. of jobs created	25	Number of local jobs created
<b>Name of the Gold Standard approved auditor (VVB)</b>	Earthood Services Private Limited		
<b>Name, position and signature of the approver of the verification and certification report</b>	 Dr. Kaviraj Singh Managing Director		

**SECTION A. Executive summary**

The GS PoA titled "ECO\_A\_BURN multi- country Clean Cooking Programme" involves the deployment of highly efficient improved cookstoves (ICS) reducing woody biomass consumption for households, institutions and Small and Medium Enterprises (SMEs) across different countries in Africa. Greenhouse gas (GHG) emission reductions achieved through saving of non- renewable biomass will result in carbon credits following GS certification rules and procedures. The revenues from sale of carbon credits are needed to:

- a. Distribute improved cookstoves to a subsidized price affordable for end- users;
- b. Scale up and expand the programme, thus reaching a wider range of end- users and generating more jobs;
- c. Further invest in R&D, hence to produce high quality stoves at a lower cost;
- d. Provide a reliable after- sales service;
- e. Sensitize and raise awareness amongst end-users about benefits and how to use the improved cookstoves.

The current VPA 5 deploys highly efficient improved charcoal stoves (ICS), known as 'Jikokoa' reducing woody biomass consumption for urban and peri-urban households in the Democratic Republic of Congo (DRC). There have been 9814 ICS distributions/ sales in Democratic Republic of Congo (DRC) in accordance with VPA 5, with the first ICS being distributed on 23/12/2020.

Cooking would have been conducted using inefficient, traditional charcoal stoves without the VPA. Project ICS reduces the usage of non-renewable biomass fuels and its associated GHG emissions.

The coordinating and managing entity (CME) of the PoA is BURN Manufacturing CO. who also act as the VPA implementer and the technology supplier for the VPA 5.

The VPA is implemented by BURN Manufacturing Co. (in the following 'BURN'), at the same time Coordinating and Managing Entity (CME) of the PoA, the biggest manufacturer of highly efficient improved cookstoves in Sub-Saharan Africa producing all its stoves in the first and only modern cookstove manufacturing facility in Kenya.

BURN implements the stoves in this VPA through Altech Group, which acts as the distribution partner for BURN in DRC.

The monitoring period covered under this verification is 01/01/2021 to 01/04/2022 (inclusive of both the dates). The total GHG emission reductions for the current monitoring period is 35,458 tCO<sub>2</sub>e. Further, the SDG benefits achieved from the programme are listed in the table below in detail:

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/Products
<b>SDG:13 Climate Change</b>	Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	27,255	VERs (tCO <sub>2</sub> e)
<b>SDG:1 No poverty</b>	1.4.1 Proportion of population living in households with	45.20%	Equivalent monetary

	access to basic services (efficient cook stoves)		savings in %
<b>SDG:3 Good Health &amp; Well Being</b>	3.9.1 Illnesses and Mortality rate attributed to household and ambient air pollution	98.94%	Measurement of user perceptions between the baseline and project scenario: smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes
<b>7 Affordable and Clean Energy</b>	Target 7.1 and 7.B	8,832	Number of sold/distributed ICS in use
<b>8 Decent Work and Economic Growth</b>	No. of jobs created	25	Number of local jobs created

### Scope of verification

The verification is an independent and objective review for determination of the monitored reductions in GHG emissions by the VVB. The verification includes the implementation and operation of the PoA as set out in the registered PoA-DD/1/ & VPA-DD/2/ for VPA 5 in the monitoring period.

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

- (i) The approved methodology TPDDTEC – “Technologies and Practices to Displace Decentralized Thermal Energy Consumptions, Version 3.1 /6/
- (ii) The registered PoA-DD/1/ & registered VPA-DD/2/ and monitoring plan/3/
- (iii) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords/30/
- (iv) GS4GG requirements /15/
- (v) The CDM Validation and Verification Standard (VVS) version 3.0/32/ and the CDM Project Standard (PS) version 3.0/31/
- (vi) Relevant decisions, guidance, and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity’s reported emission reductions

The verification has considered both the quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC and GS4GG, as appropriate to the PoA. The verification is not meant to provide any consulting or recommendations to the CME/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

### Verification Process

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

- a) Contract with CME and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)
- b) Desk review (refer Section D.1 of this report) of Monitoring Report and corresponding ER sheet by verification team and remote audit (including sampling approach (refer Section D.4 of this report) to be applied) /28/
- c) Remote audit (refer Section D.2 of this report) by verification team consistent of Team Leader and all Technical Experts, as a minimum/45/
- d) Follow up activities e.g., interviews (refer Section D.3 of this report)
- e) Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.5 of this report)

- f) Independent technical review (refer Section B.2 of this report) of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidences)
- g) Reporting and closure of TR comments/findings (refer Section D.5 of this report) (CARs/CLs/FARs) and final approval for the decision made (refer Section G and H of this report).
- h) Issuance of final verification report to contracted CME (or authorized representatives) and submission of request for issuance, as appropriate.

**Verification Conclusion**

Based on the outcome of the verification process of VPA 5 "Efficient and Clean Cooking for households in Democratic Republic of Congo" of GS PoA "ECOА\_BURN multi-country Clean Cooking Programme", for the monitoring period 01/01/2021– 01/04/2022 (inclusive of both the dates), we confirm that the implementation of referenced registered PoA and its VPA 5 is complying with applicable CDM and GS4GG rules and regulations as stated in the Monitoring Report (final) Version 1.7, dated 13/06/2023/4/. The GHG emission reductions were calculated inline with the approved baseline and monitoring methodologies TPDDTEC – "Technologies and Practices to Displace Decentralized Thermal Energy Consumptions, Version 3.1"/6/ and the monitoring plan contained in the registered PoA-DD/1/ and VPA-DD/2/.

Earthood Services Private Limited (hereafter referred as "Earthood") is able to certify that the emission reductions from the VPA (GS 11433) "Efficient and Clean Cooking for households in the Democratic Republic of Congo" of registered PoA (GS 10789) "ECOА\_BURN multi-country Clean Cooking Programme" during the period 01/01/2021–01/04/2022 (inclusive of both the dates) amounts to 27,255 tCO<sub>2</sub>e. Therefore, this is being submitted for request for issuance, as per GS4GG/7/ and UNFCCC procedures/16//17/.

**SECTION B. Verification team, technical reviewer and approver**
**B.1. Verification team members**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection (remote)	Interviews*	Verification findings
1.	Team Leader (new)	IR	Jain	Arohi	Central Office	Y	Y	Y	Y
2.	Verifier (new)	IR	Jain	Arohi	Central office	Y	Y	Y	Y
3.	Methodology Expert (new)	IR	Jain	Arohi	Central office	Y	Y	Y	Y
4.	Team Leader (old)	IR	Singh	N. Premjit	Central office	Y	Y	Y	Y
5.	Verifier (old)	IR	Singh	N. Premjit	Central office	Y	Y	Y	Y
6.	TA Expert (TA3.1) (old)	IR	Singh	N. Premjit	Central office	Y	Y	Y	Y
7.	TA Expert (TA3.1) & GS approved auditor	IR	Guleria	Shifali	Central office	Y	Y	Y	Y
8.	Local Expert	EI	Emmanuel	Kasiho Mushagalusa	Central office	N	Y	Y	N

\*Remote survey using Microsoft Teams software which was screen recorded for audit trail instead of physical on-site audit. Details for remote audit survey have been discussed in detail in section D.2 of the report.

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

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

**SECTION C. Application of materiality in conducting the verification**

**C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material omissions, errors, or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Erroneous transfer of information from documented records (POs, sales records, etc.) to ER sheet/database.	Low	The documents also undergo regular internal checks to ensure the accuracy of data entry.	The records are checked on a sampling basis such that the information verified from database has low uncertainty within acceptable limits and is substantiated by remote observations/45/.
2.	Error in applying the formulae in the emission reduction calculation sheet	Low	The calculation method has been prescribed in the applied methodologies and further detailed in the registered PoA-DD. There isn't any complex equation involved in the ER calculations. Also, the internal check ensures that such errors are identified in advance.	The emission reduction calculation sheet/5/ has been reviewed in detail by the assessment team. Each step for the calculation has been thoroughly checked to confirm the final numbers as well as the steps involved both computationally as well as, in accordance with the methodological requirement.

**C.2. Consideration of materiality in conducting the verification**

All errors were individual errors and no extrapolation of errors in the final calculation of ERs was required. The verification team confirms that the final ERs/5/ are free from material errors with a reasonable level of assurance.

**SECTION D. Means of verification**

**D.1. Desk/document review**

The verification is performed primarily as a desk review of the documents submitted at various stages of assessments. The review is performed by the assessment team using dedicated protocols (checklists). The assessment team cross checks the information provided in the documents (MR)/4/ and information from sources other than those used, if available, and also conducts independent background investigations. Earthood conducted a desk review as under:

1. A review of the data and information presented to verify their completeness.
2. A review of the monitoring plan (as described in VPA-DD) /2/, the monitoring methodology including applicable tool(s) and, where applicable/16//17/, the applied standardized baseline, paying particular attention to the frequency of measurements, and the quality assurance and quality control procedures
3. A review of calculations and assumptions made in determining the GHG data and emission reductions/4//5/;
4. An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions

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

**D.2. On-site inspection**

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

\* During the current validation, the on-site visit was not possible due to the outbreak of conflict in the zones/areas posing high risk to life. CME has submitted a gold standard approved Deviation Request Form with reference number DEV\_284 for conducting Remote site visit/44/ as the project area falls in the conflict zone of DRC i.e., these areas are currently witnessing several incidents of violence. The travel to these areas is restricted and very dangerous. Below are some of the publicly available news/information/live videos regarding these regions.

Media Source:

<https://www.aljazeera.com/news/2022/7/26/protesters-demand-un-troops-leave-drc-amid-rising-conflict>

The incidents of violence have broken out during mid July 2022 and making it unsafe for VVB to travel to DRC. Since the VVB has already been contracted, BURN is unable to provide statement of unwillingness to travel to DRC from another VVB, which the conflict zone requirements require. It is not clear when the situation will stabilize, and BURN is at risk of the project’s timelines getting delayed and the review date for the VPAs being pushed further behind. It is advised to restrict the avoidable travel due to which the validation team didn’t take risk and plan a physical onsite assessment.

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

Alternative Measures relating to mandatory on-site visits for VVBs audits include:

a. A VVB may postpone site visits for on-site inspections, taking into account the rules of relevant national and local authorities (local to the DOE offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB (if any) and other relevant travel restrictions and guidance (for example, a requirement to self-isolation upon return from specific countries).

b. If site visit cannot be postponed due to significant impact of delaying the site visit on VVB and/or project developer due to timeline/commitment as per validation/verification or GS-VERs delivery agreement, VVB may replace mandatory on-site visits with remote audits. The audit may include but not limited to validation, verification, the inclusion of VPAs, design change review etc.

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

The remote audit included interviews with the CME representatives and the CPA implementers through video call via Teams meeting app. The VVB also interviewed the end-users on sampling basis as discussed under section C.3. of this report.

For the VPA 5 covered by the present verification, an ESPL VVB team conducted a remote site visit on 30/08/2022 for the first verification of the GS VPA 5 /45/.

The following activities were performed during the remote site visit:

- Opening Meeting: Introduction, scope and objective of work, roles and responsibilities of audit team.
- Parameter fixed Ex-ante and Baseline emissions, Project emissions and Leakage calculation
- Project boundary and emission sources included in the project boundary.
- Choice and applicability of baseline methodology(ies)
- Project Activity (Technology, Location and Implementation)
- Monitoring plan (feasibility of monitoring arrangements described in PDD, QA/QC procedures, responsibility of implementation of monitoring plan, data recording & storage procedures)
- Operational lifetime of the project activity, Start date of the project activity, Crediting period
- Environmental impacts and need of EIA
- Local Stakeholder Consultation process, comments received.

**D.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
<b>Interview of the Field Officers of CME</b>						
01	Subramanian	Sriskandh	Carbon Consultant	30/08/2022	VPA implementation, ER calculations, Monitoring procedures, Monitoring surveys	N. Premjit Singh, Arohi Jain, Surya Krishna Tangeti and Emmanuel Kasiho Mushagalusa
02	Otolo	Natasha	Carbon Manager	30/08/2022		
03	Njihia	Samuel	Head of market intelligence	30/08/2022		
04	Xerinda	Norato	Senior Carbon Officer	30/08/2022		
05	Varghese	Tom	Senior Carbon Officer	30/08/2022		
06	Momanyi	Henry	B.I. Data Analyst	30/08/2022		
<b>Project Monitoring Survey Responses</b>						
1.	Esperance	Kapunga	End-user of ICS	30/08/2022	The range and extent of questions asked during the survey is presented in detail in the ensuing sections in section D.3.1	N. Premjit Singh, Arohi Jain, Surya Krishna Tangeti and Emmanuel Kasiho Mushagalusa
2.	Stephane	Tambwe	End-user of ICS	30/08/2022		
3.	Nikole	Migabo	End-user of ICS	30/08/2022		
4.	Esther	Mupepe	End-user of ICS	30/08/2022		
5.	Eliza	Mplala	End-user of ICS	30/08/2022		
6.	Jeannette	Sifa	End-user of ICS	30/08/2022		

7.	Deborah	Sayuni	End-user of ICS	30/08/2022		
8.	Odette	Jean Claude	End-user of ICS	30/08/2022		
9.	Ikendja	Leya Jolie	End-user of ICS	30/08/2022		
10.	Ngalula	Gisele	End-user of ICS	30/08/2022		
11.	Sifa Fundi	Fundi	End-user of ICS	30/08/2022		

To verify the ageing categorization in the project implementation, VVB has conducted additional remote audit of 11 end users. The details for the same are as follows:

1.	Odette	Bamanda	End-user of ICS	22/03/2023	The range and extent of questions asked during the survey is presented in detail in the ensuing sections in section D.3.1.	Arohi Jain, Emmanuel Kasiho Mushagalusa
2.	Angangi	Marthe	End-user of ICS	22/03/2023		
3.	Mathé	Kamundu	End-user of ICS	22/03/2023		
4.	Fidèle	Baraka	End-user of ICS	22/03/2023		
5.	Atosha	Wakengela	End-user of ICS	22/03/2023		
6.	Nyota	Peggy	End-user of ICS	22/03/2023		
7.	Mputu	Abakasomi bénédiction	End-user of ICS	22/03/2023		
8.	Blandine	Fakandi	End-user of ICS	22/03/2023		
9.	Pascal	Lembo	End-user of ICS	22/03/2023		
10.	Elodie	Kavira	End-user of ICS	22/03/2023		
11.	Patience	Kahindo	End-user of ICS	22/03/2023		

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

The respondents in the Project Monitoring Survey were asked about their demographics as follows, in order to establish their identities stated in the survey conducted earlier by the PD/CME as mentioned in MR/4/ and survey sheets/41/

1. Name
2. Address with zip code
3. Date of Birth
4. Phone Number

No.	Questions asked by Team member as part of Project Monitoring Survey
1.	What is the SI No of the Cookstove you received?
2.	Do you recall being visited by BURN enumerators about the use of the Jikokoa stove? (If yes, date/ year of survey)
3.	How many BURN Jikokoa/ Kuniokoa stoves do you own that are in use for cooking food in your household?
4.	Any other ICS received from other CME(s)? If yes, name of CME).
5.	Is the Jikokoa/ Kuniokoa in use/ operational?
6.	Is the baseline/ old stove still in usage?
7.	Fuel used in project stove (BURN Jikokoa/ Kuniokoa)?
8.	Source of the fuel (eg: biomass or charcoal) (nearby area/ forest/ local market/etc.)?
9.	Any smoke reduction?
10.	Any difference in cooking between rainy season and dry season?
11.	Any idea about to get in touch with BURN in case you need to be assisted on the use of the stove? E.g. phone number, email or location of the BURN office near you?
12.	Any other remarks (less fuel consumption, bigger stove etc.)
13.	Users were also asked how they got benefitted from the installation of project stove; for example: reduction in the smoke level or indoor air pollution, Price of fuel, efficient cooking (fuel usage) & effect of season on fuel source and type. This covers the VVB's assessment on safeguarding principles, SDG assessment and stakeholder inclusivity.

All the end-users reported that the product is working satisfactorily, and they feel that there has been an improvement in the indoor air quality. All the end users also reported that they are aware of the grievance mechanism. While no adverse or negative responses were received regards the usage or convenience of use of stove, some responded gave suggestions like having a larger project stove which can take two pots and increase the production of project stoves.

#### **D.4. Sampling approach**

##### **CME's Sampling Approach**

CME will follow sampling procedures given in Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1/6/ for determining the sample size of each parameter. A confidence precision of 90/10 will be ensured by CME for meeting the annual/biennial monitoring criteria. The sampling approach undertaken by CME is duly explained under section B.7.2 of the VPA-DDs/2/, which has been assessed by the verification team and found to be correct and in-line to the TPDDTEC v3.1/6/.

##### **VVB's Sampling Approach**

The Standards for Sampling and surveys for CDM project activities and programme of activities (Version 9.0) /13/ states under paragraph 28 that "When the project participants or the coordinating/managing entity have applied a sampling approach, the DOE may apply acceptance sampling as described in the steps indicated below as part of validation/verification activities". The verification team has conducted acceptance sampling for the baseline consumption of the fuel with the help of baseline survey in line with paragraph 30 and 31 of the sampling standard version 9.0/13/.

As per para 39 of the sampling standard version 9.0/13/, "A DOE may select a different sample size than the one indicated in paragraph 32 above either by choosing a different value for the consumer risk and producer risk (e.g. 20 per cent for the consumer risk) when applying acceptance sampling or by using another approach, if any of the following conditions apply:

- (a) The estimated volume of annual GHG emission reductions of the project activity or the PoA being verified is equal to or less than 100,000 t CO<sub>2</sub>eq.;
- (b) The security conditions in the project region prevents inspection of many samples (eg. conflict zones); or
- (c) The project activity or the PoA is located in a least developed country or a host party with 10 or fewer registered CDM project activities at the end of the monitoring period being verified."

The PoA is located in Democratic Republic of Congo (DRC), which is LDC. Thus, the verification team can choose a different sample size than one indicted in para 32 of the sampling standard/13/.

The verification team selected random sample of CME's sampled records to check the acceptability (or otherwise) of the data for each such record with CME's sample records and determined if the CME's sample records meet the requirements.

The verification team selected the sample size as 11 households with 3 households extra as backup for the purpose of remote site inspection to check the acceptability of CME's sampling results or otherwise.

#### **Sample Size: (Per region)**

PoA Ref no.	AQL	UQL	Producer Risk	Consumer Risk	Sample Size; Min	Acceptance No.
GS 10789	0.5%	20%	10%	20%	11	0

The Verification team covered a total of 11 samples and observed a few typographical errors related to erroneous reporting of data from the project monitoring survey forms into the project survey calculation sheet. The VVB has also conducted an additional remote audit of 11 end users on the additional usage surveys conducted by the CME to account for proper ageing categorization. It has now been ensured that all the data is now consistent between the project survey forms and SDG calculation sheet. There were no material errors identified that might have resulted in the overestimation of the SDG impacts.

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
<b>General</b>			
Compliance of the monitoring report with the monitoring report form	-	CAR 01 CAR 08	-
Remaining forward action requests from previous verification	-		
Specific-case VPA(s) considered for verification and covered in this report	-	-	-
<b>Programme of activities</b>			
Compliance of the programme implementation with the registered PoA-DD	-	-	-
Implementation and operation of the management system	-	CAR 03	-
<b>Post-registration changes</b>	-	-	-
<ul style="list-style-type: none"> <li>Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Corrections</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Inclusion of a monitoring plan in a registered PoA-DD (including its generic VPA-DD(s))</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Permanent changes to the monitoring plan as described in the registered PoA-DD, applied methodology, or applied standardized baseline</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Changes to the programme design of the registered PoA-DD (including corresponding changes to project design of the generic VPA-DD(s)) and updates to the eligibility criteria for inclusion of specific-case VPAs in the PoA</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Types of changes specific to afforestation and reforestation activities</li> </ul>	-	-	-
<b>Voluntary project activities</b>			

Compliance of the VPA implementation with the included VPA design document	-	CAR 02	-
Post-registration changes	-	-	-
<ul style="list-style-type: none"> <li>Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Corrections</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Changes to the start date of the crediting period</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Inclusion of a monitoring plan to an included VPA-DD</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Permanent changes to the monitoring plan as described in the included VPA-DD, applied methodology, or applied standardized baseline</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Changes to the programme design of the included VPA-DD</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Types of changes specific to afforestation and reforestation component project activities</li> </ul>	-	-	-
Compliance of the monitoring plan with the monitoring methodology including applicable tool and standardized baseline	-	-	-
Compliance of monitoring activities with the registered monitoring plan	-	-	-
<ul style="list-style-type: none"> <li>Data and parameters fixed ex ante or at renewal of crediting period</li> </ul>	-	CAR 04 CAR 09	-
<ul style="list-style-type: none"> <li>Data and parameters monitored</li> </ul>			-
<ul style="list-style-type: none"> <li>Implementation of sampling plan</li> </ul>			-
Compliance with the calibration frequency requirements for measuring instruments			-
Assessment of data and calculation of emission reductions or net removals			-
<ul style="list-style-type: none"> <li>Calculation of baseline GHG emissions or baseline net GHG removals by sinks</li> </ul>		CAR 05	-
<ul style="list-style-type: none"> <li>Calculation of project GHG emissions or actual net GHG removals by sinks</li> </ul>		CAR 05	-
<ul style="list-style-type: none"> <li>Calculation of leakage GHG emissions</li> </ul>			-
<ul style="list-style-type: none"> <li>Summary of calculation of GHG emission reductions or net GHG removals by sinks</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included specific-case CPA</li> </ul>	-	-	-
<ul style="list-style-type: none"> <li>Remarks on difference from estimated value in registered VPA-DD</li> </ul>		-	-
Assessment of reported sustainable development co-benefits	CL 01	CAR 06 CAR 07	
Global stakeholder consultation			

Others (please specify)	-	-	-
<b>Total</b>	<b>01</b>	<b>09</b>	<b>0</b>

**SECTION E. Verification findings**
**E.1. Compliance of the monitoring report with the monitoring report form**

<b>Means of verification</b>	VVB checked from the Gold Standard website that the prescribed form has been used for preparing the Monitoring Report/4/. The CME used the Gold Standards for Global Goals latest MR template version 1.1/4.1/ available on the GS webpage and all the details were filled as per the MR template filling guidelines./4.1/
<b>Findings</b>	CAR 01 and CAR 08 were raised and resolved.
<b>Conclusion</b>	The verification team confirms the compliance of the monitoring report with the latest version of the GS monitoring report template and the instructions therein for filling out the form.

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

None.

**E.3. VPAs considered for verification and covered in this report**

Title and GS reference number of the VPA included in the PoA as of at the end of this monitoring period	Is the VPA considered for this verification? (yes/no)	Version of the VPA-DD/ PoA-DD	Confirmation that a request for issuance including the VPA has been published for the previous monitoring period (Y/N)
GS11433 Efficient and Clean Cooking for households in the Democratic Republic of Congo (DRC) (VPA 5)	Yes	Version 2.6; Version 4.1	NA, as this is the first monitoring period

**E.4. Programme of activities**
**E.4.1. Compliance of the programme implementation with the registered programme design document**

<b>Means of verification</b>	<p>The planned project's purpose is to supply improved cookstoves (ICS) to the rural and peri- urban families in DRC. BURN Manufacturing Co. (BURN) is the PoA's coordinating/managing entity (CME) and the VPA's only implementer. The objective of BURN is to finance and create high-impact climate mitigation projects.</p> <p>In DRC, 9814 ICS have been delivered through the VPA, and all of them have been recorded in the monitoring database. The VPA is thus retroactive, as the first ICS was given in DRC on December 23, 2020. The project ICS more effectively burns biomass fuels, lowering greenhouse gas (GHG) emissions and particle emissions (PM), and thereby improving indoor air quality in project households.</p> <p>Because the ICS has a better thermal efficiency than traditional/baseline</p>
------------------------------	--

	<p>stoves, it requires less non-renewable biomass fuel to achieve equivalent thermal energy demands.</p> <p>In the absence of the VPA, traditional charcoal stoves would have been utilised for cooking, which would have been inefficient. By replacing these with project ICS, non-renewable biomass fuel usage and GHG emissions are reduced.</p> <p>The present VPA covers 16 provinces out of the total 26 provinces in DRC.: 13.1339 S, 27.8493 E.</p> <p>All of the deployed systems fulfil the VPA DD/2/ eligibility standards. The evaluation team certifies that cookstoves were distributed solely in Democratic Republic of Congo (physical boundary), and hence the geographical borders of the implemented VPA correspond to the acceptable VPA-DD /2/.</p> <p>Furthermore, the assessment team verifies that:</p> <ul style="list-style-type: none"> <li>• The VPA is implemented within the border of the VPA as defined in the registered PoA-DD/1/, based on a review of distribution records by CME/8/, remote observations, and an interview performed during the remote inspection.</li> <li>• All physical aspects of the VPA recommended in the updated acceptable VPA-DD/2/ have been implemented.</li> </ul> <p>The information (including data and variables) in the MR/4/ is determined to be consistent with the specifics in the approved VPA-DD/2/. The verification team determined that the project description included in MR was comprehensive and correct, and that it corresponded to the updated acceptable VPA-DD/2/.</p> <p><b>Grievance Mechanism</b></p> <ol style="list-style-type: none"> <li>i. <b>Phone Number:</b> End users can call in Altech: +243 822230188 which is the dedicated phone number where they can call and communicate their comments or complaints to BURN’s after sales service unit. No phone calls with any comments, disputes, inputs have been received.</li> <li>ii. <b>Logbook:</b> A log-book has been placed at Altech head office. No comments, disputes, inputs have been received on the log-books during the monitoring period.</li> <li>iii. <b>Internet Email Access:</b> No comments, disputes, inputs have been received via email during the monitoring period.</li> </ol>
<p><b>Findings</b></p>	<p>None</p>
<p><b>Conclusion</b></p>	<p>The verification team can confirm that all physical features (technology, project equipment, and monitoring and metering equipment) of the registered VPA were in place and that the CME operated the project activity in accordance with the VPA-DD/2/ and VPA-Inclusion Report/3/ during the current monitoring period and based on the information verified through the remote audit and interviews/45/.</p> <p>During the current monitoring period, emissions were reduced by 36,788 tCO2e. The following values SDGs were attained in this monitoring period by VPA:</p>

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/Products
1 No poverty	Installation of ICS	45.20%	ICS
3 Good health and well-being	Households reporting reduction in smoke/ PM emissions while cooking on project ICS	98.94% Users reported a decrease	Households
7 Affordable and Clean Energy	ICS installed that are in operation	8,832	ICS
8 Decent work and economic growth	Number of person (male and female) hired under Project	25	Contracted Staff
13 Climate	Net CO2 emissions reductions achieved in this monitoring period	27,255	tCO <sub>2</sub> e

**E.4.2. Implementation and operation of the management system**

<b>Means verification</b>	<p>of</p> <p>BURN offered stoves directly to end users or through specialist wholesalers. The stove distribution and data gathering processes were explained to distributors.</p> <p>The CME runs and manages an electronic data management system that keeps and tracks information on all efficient cooking methods covered by the VPA. The following information will be recorded in the database at a minimum using a cloud-based web platform (KoboCollect):</p> <ul style="list-style-type: none"> <li>• Unique serial number (USN) of the ICS</li> <li>• Date of shipment to distributor/ retailer</li> <li>• Name of distributor/ retailer</li> <li>• Quantity of ICS distributed</li> <li>• Geographic area (state) of distributor/ retailer</li> <li>• Model type of ICS</li> </ul> <p>Furthermore, the distribution database will include end-user contact information (name, state, mobile number, or national ID number) from at least ten times the survey and field test sample size (including usage surveys for each age of product) to ensure an adequate end-user pool from which random sampling can be applied. End-users must register their end-user details through SMS or phone call in order to claim the ICS warranty.</p>
---------------------------	---

Each ICS's USN will be connected to a sales date (recorded during distribution) or shipment date in the sales database. Thus, for any monitoring period, the duration of time for which the stoves included in the emissions reduction estimates are deemed operational can be calculated. If, for example, a stove has been operational for 180 days, the full-year operating percent is 0.493 (=180/365 days). The stove will be counted as operational (= start crediting) from the next day following distribution or after a conservatively calculated period of time from the date of shipment. The sum of all appliances' operational fractions determines the equivalent full-time appliances for the monitoring period.

The USN has the following format comprising of 9 digits:

1 <sup>st</sup> digit	2 <sup>nd</sup> digit	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>
Product ID	100000 <sup>th</sup>	10000 <sup>th</sup>	1000 <sup>th</sup>	100 <sup>th</sup>	10 <sup>th</sup>	Random	Random	1 <sup>st</sup>
<b>ID</b>	<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>S4</b>	<b>S5</b>	<b>R1</b>	<b>R2</b>	<b>S6</b>

Each section on the USN will identify the product as follows:

- Product type: the first digit identifies the stove type (Jikokoa)
- # Production number: S1 to S6 are digit slots for a sequential numbering ordered by time of production, allowing for 1 million unique serial numbers. For instance, the first stove off the line would have "000000" for its S1-S6 digits.
- Random digits: R1 and R2 are 2 random digits placed in slots 7 & 8, to make the USN unpredictable to outside parties

The data for the system will be updated and modified as required to allow for optimal performance of each VPA implementation and monitoring. All data will be stored for at least two (2) years after the expiry of the crediting period.

<b>Findings</b>	CAR 03 was raised and resolved.
<b>Conclusion</b>	The verification team assessed the management systems in place to implement the monitoring of the PoA. This included the roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system. The roles and responsibilities data collection transfer and aggregation procedures, data storage and archiving for the monitoring system have been provided in the MR /4/. The verification team confirms that the monitoring management system of the VPA and by extension PoA is in place with the responsibilities properly identified and established as per the revised approved PoA-DD/1/.

**E.4.3. Post-registration changes**

**E.4.3.1. Corrections**

Not Applicable

**E.4.3.2. Inclusion of a monitoring plan**

Not Applicable

**E.4.3.3. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents**

Not Applicable

**E.4.3.4. Changes to the programme design**

Not Applicable

**E.4.3.5. Addition of CPA inclusion template**

Not Applicable

**E.4.3.6. Change of coordination/managing entity**

Not Applicable

**E.4.3.7. Changes specific to afforestation and reforestation activities**

Not Applicable

**E.5. Voluntary project activity**

**E.5.1. Compliance of the VPA implementation with the included VPA design document**

<b>Means of verification</b>	<p>According to the approved VPA design, the Voluntary Project Activity (VPA) "Efficient and Clean Cooking for households in the Democratic Republic of Congo (DRC)- VPA 5 (DRC)" has been executed inside the project boundaries. The VPA distributes ICS technology that work on the idea of enhancing heat transmission from the combustion chamber to the cooking pot, hence reducing cooking/fuel collecting time. The ICS's design optimises the combustion chamber shape, fuel quantity, and air movement through the stove.</p> <p>Reduced woody biomass consumption will result in GHG emission reductions, relative to the applicable non-renewable biomass factor.</p> <p>To attain high thermal efficiency, the efficient cook stove relies on two primary design principles: increased airflow and thermal insulation. Improved airflow design provides for better fuel-air mixing and fuel-air mixture management, improving the rate at which oxygen is fed to fuel in the combustion chamber. The increased flow rate of oxygen permits the combustion to proceed at a greater temperature. The thermal insulation of the efficient cooking stove ensures thermal energy is channelled to the cooking surface and is does not become waste heat. BURN Manufacturing Co. conceived and produced the Jikokoa Classic (G3.5) and Jikokoa Xtra (G4) efficient charcoal cooking stoves used by the VPA.</p> <p>The technical specifications of the ICS are mentioned in the following table:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00BFC4; color: white;"><b>Stove Manufacturer</b></td> <td>BURN</td> </tr> <tr> <td style="background-color: #00BFC4; color: white;"><b>Stove Model</b></td> <td>Jikokoa G3.5</td> </tr> <tr> <td style="background-color: #00BFC4; color: white;"><b>Stove Type</b></td> <td>Charcoal Stove</td> </tr> <tr> <td colspan="2" style="background-color: #00BFC4; color: white;"><b>Materials</b></td> </tr> <tr> <td style="background-color: #00BFC4; color: white;"><b>Stove Body</b></td> <td>CRCA Carbon Steel painted high gloss black epoxy powder coat</td> </tr> <tr> <td style="background-color: #00BFC4; color: white;"><b>Pot Rest</b></td> <td>Stainless Steel</td> </tr> </table>	<b>Stove Manufacturer</b>	BURN	<b>Stove Model</b>	Jikokoa G3.5	<b>Stove Type</b>	Charcoal Stove	<b>Materials</b>		<b>Stove Body</b>	CRCA Carbon Steel painted high gloss black epoxy powder coat	<b>Pot Rest</b>	Stainless Steel
<b>Stove Manufacturer</b>	BURN												
<b>Stove Model</b>	Jikokoa G3.5												
<b>Stove Type</b>	Charcoal Stove												
<b>Materials</b>													
<b>Stove Body</b>	CRCA Carbon Steel painted high gloss black epoxy powder coat												
<b>Pot Rest</b>	Stainless Steel												

<b>Burning Chamber</b>	Stainless Steel	
<b>Ash Tray</b>	Aluzinc	
<b>Feet</b>	Stainless Steel	
<b>Measurements</b>		
<b>Height</b>	cm	24.4 cm
<b>Diameter (stove top)</b>	cm	26.0 cm
<b>Weight</b>	kg	4 kg
<b>Fuel Chamber Volume</b>	cm <sup>3</sup>	954 cm <sup>3</sup>
<b>Packaging Dimensions</b>	cm	29.0 L x 28.5 W x 25.1 H
<b>WBT Results</b>		
<b>Parameter</b>	<b>Unit</b>	<b>Value</b>
High power thermal efficiency (average of cold start and hot start)	%	48.1%
Firepower	kW	2.05
Boil Time	minutes	27.72
<b>Lifetime</b>		
Warranty	2 years	
Estimated Lifetime <sup>3</sup>	7 to 10 years	
<b>Stove Manufacturer</b>	BURN	
<b>Stove Model</b>	Jikokoa Xtra (G4)	
<b>Stove Type</b>	Charcoal Stove	
<b>Materials</b>		
<b>Stove Body</b>	CRCA Carbon Steel painted high gloss black epoxy powder coat	
<b>Pot Rest</b>	Stainless Steel & Cast Iron	
<b>Burning Chamber</b>	Stainless Steel	

<b>Ash Tray</b>	Aluzinc	
<b>Feet</b>	Aluzinc	
<b>Height</b>	cm	27.0 cm
<b>Diameter (stove top)</b>	cm	30.2 cm
<b>Weight</b>	kg	5.5 kg
<b>Fuel Chamber Volume</b>	cm <sup>3</sup>	1030 cm <sup>3</sup>
<b>Packaging Dimensions</b>	cm	30.2 L x 30.5 W x 27.5 H
<b>WBT Results</b>		
<b>Parameter</b>	<b>Unit</b>	<b>Value</b>
High power thermal efficiency (average of cold start and hot start)	%	44.6%
Firepower	kW	2.21
Boil Time	minutes	27.96
<b>Lifetime</b>		
Warranty	2 years	
Estimated Lifetime <sup>1</sup>	7 to 10 years	
<b>Stove Manufacturer</b>	BURN	
<b>Stove Model</b>	Ecoa Char MMJ <sup>2</sup>	
<b>Stove Type</b>	Charcoal Stove	
<b>Materials</b>		
<b>Stove Body</b>	CRCA Carbon Steel, painted hammer tone black epoxy powder coat	

<sup>1</sup> The lifetime of the Jikoko Xtra may go beyond the indicated lifetime. Hence, depending on the usage rate of the stoves, stoves will be either removed from the database after the end of its lifetime and not credited anymore or remain in the database for crediting until the moment a significant drop in usage rate is observed. As an alternative, worn out ICS may be replaced by newly distributed stoves. Manufacturer’s declaration about the ICS lifetime has been submitted to the validating DOE.

<sup>2</sup> The name of the stove model is still subject to change.

<b>Pot Rest</b>	Stainless Steel
<b>Burning Chamber</b>	Stainless Steel
<b>Ash Tray</b>	Aluzinc
<b>Feet</b>	Aluzinc
<b>Handles</b>	Stainless Steel and Polypropylene plastic <sup>3</sup>

Measurements		
<b>Height</b>	cm	22.8 cm
<b>Diameter (stove top)</b>	cm	26.7 cm
<b>Weight</b>	kg	3.0 kg
<b>Fuel Chamber Volume</b>	cm <sup>3</sup>	1,152 cm <sup>3</sup>
<b>Packaging Dimensions</b>	cm	29.5 L x 29.5 W x 24.0 H9

WBT Results		
Parameter	Unit	Value
High power thermal efficiency (average of cold start and hot start)	%	49.29%
Firepower	kW	2.2
Boil Time	minutes	25.13

Lifetime	
Warranty	1 year
Estimated Lifetime <sup>4</sup>	7 to 10 years

The project has been implemented as described in the PDD. There are no changes from the project design, except that no stoves of the model Ecoa Char MMJ have been distributed yet.

This verification report covers the monitoring period from 01/01/2021 to 01/04/2022(inclusive of both the dates). An overview of all field project activities is provided in the table below as verified in the validation report/3/:

Date	Activity
23/12/2020	Project start date (Start of stove distribution)
01/01/2021	Start of project crediting period
01/04/2022-03/06/2022	Usage/ Monitoring Survey
28/01/2023- 18/02/2023	Additional Usage/ monitoring surveys
11/04/2022- 24/05/2022	Project KPTs
11/09/2020-31/10/2020	Baseline KPT Survey

<sup>3</sup> The name of the stove model is still subject to change.

<sup>4</sup> 10The lifetime of the Ecoa Char MMJ may go beyond the indicated lifetime. Hence, depending on the usage rate of the stoves, stoves will be either removed from the database after the end of its lifetime and not credited anymore or remain in the database for crediting until the moment a significant drop in usage rate is observed. As an alternative, worn out ICS may be replaced by newly distributed stoves. Manufacturer’s declaration about the ICS lifetime has been submitted to the validating VVB.

<b>Findings</b>	CAR 02 was raised and resolved.
<b>Conclusion</b>	<p>The verification team is of the opinion that physical features of the VPA have been implemented in accordance with the VPA-DD/2/.</p> <ul style="list-style-type: none"> <li>• It is also confirmed, through the review of the supporting documentation, that physical features of the component VPA have been implemented in accordance with the VPA-DD /2/.</li> <li>• The VPA was also found to be completely operational in line with the VPA-DD /2/.</li> <li>• The information provided in the relevant sections of the monitoring report are appropriately describe the implementation and operational status of the PoA.</li> </ul>

**E.5.2. Post-Design Certification changes**

**E.5.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline**

Not Applicable

**E.5.2.2. Corrections**

Not Applicable

**E.5.2.3. Changes to the start-date of the crediting period**

Not Applicable

**E.5.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline**

Not Applicable as this is the first monitoring period of the VPA

**E.5.2.5. Changes to project design of approved project**

There are no changes made during this monitoring period.

**E.5.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines**

<b>Means of verification</b>	The monitoring plan contained in the VPA-DD /2/ was reviewed in relation to the monitoring requirements of the applied methodology, TPDDTEC, version 3.1 /6/, as well as the PoA DD /1/, bearing in mind the technology involved. In light of the review conducted, it was found that the monitoring plan in the VPA-DD/2/ contains all the required parameters to be monitored in the context of the VPA design and description and allows determination of emission reductions according to the PoA DD/1/ and applied methodology/6/.
<b>Findings</b>	No findings raised.
<b>Conclusion</b>	The monitoring plan is in line with the approved methodology, Gold Standard Simplified Methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1 /6/, that is included in the registered PoA DD/1/ and VPA-DD/2/. The monitoring plan is in accordance with the applied methodology /6/ that is included in the VPA-DD/2/.

**E.5.4. Compliance of monitoring activities with the registered monitoring plan**

**E.5.4.1. Data and parameters fixed ex ante or at renewal of crediting period**

**SDG13-IDF01: Quantity of charcoal that is consumed in baseline scenario b during year y**

<b>Means of verification</b>	<p>Quantity <math>P_{b,y}</math> – Tonnes per household per annum</p> <p>The value of this parameter was cross checked with the baseline kitchen performance test (KPT). The calculation steps and the attendant references in the excel sheet were checked. The sample mean of the daily consumption of dry fuelwood is 0.64 kg/day/HH which is a statistically determined value at 95/10 confidence interval/precision, derived based on the 3 consecutive days of charcoal consumption when the KPT was conducted. The standard deviation of the sample obtained is 0.35 kg from a revised sample size of 190 from 201. This effectively removes overestimation of fuelwood estimation in baseline by eliminating the outliers ie., consumption exceeding 1.76kg in the household in the observational period of 3 consecutive days.</p> <p>This value is used in the baseline emission determination</p> <p>The value verified is: 1.35748 tonnes/households/year.</p>
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /5/ are consistent with the approach given in registered VPA-DD wherein it is recommended to establish baseline fuel usage for VPA at the time of verification/2/. Hence the applied value is correct and justified.

**SDG13-IDF02: CO2 emission factor arising from the use of fuels in baseline scenario, tCO<sub>2</sub>/TJ**

<b>Means of verification</b>	<p><math>EF_{b,CO_2}</math> - The value is fixed and is derived from 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.5 - Default emission factors for stationary combustion in the residential and agriculture/forestry/fishing/fishing farms categories/14/. The mean value of the range of default IPCC values has been utilized. This value is used towards determination of baseline emissions</p> <p>The verified value is: 112 tCO<sub>2</sub>e/TJ</p>
<b>Findings</b>	CAR 09 was raised and resolved.
<b>Conclusion</b>	The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /5/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

**SDG13-IDF03: Non-CO<sub>2</sub> emission factor arising from use of fuels in baseline scenario, tCO<sub>2</sub>/TJ**

<b>Means of verification</b>	<p><math>EF_{b,non-CO_2}</math> – IPCC default value.</p> <p>This value is used for the determination of baseline emissions</p> <p><b>The verified value is: 9.46 tCO<sub>2</sub>e/TJ (Fuelwood)</b></p>
<b>Findings</b>	CAR 04 and CAR 09 were raised and resolved.
<b>Conclusion</b>	The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /4/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

**SDG13-IDF04: CO<sub>2</sub> emission factor arising from use of fuels in project scenario, tCO<sub>2</sub>/TJ**

<b>Means verification</b>	<b>of</b>	<p>EF<sub>p,CO2</sub> - The value is fixed and is derived from 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2: Stationary Combustion, Table 2.9 - Default emission factors for stationary combustion in the residential and agriculture/forestry/fishing/fishing farms categories Mean value of the range of the default values has been applied</p> <p>This value is used for the determination of project emissions</p> <p><b>The verified value is: 112 tCO<sub>2</sub>e/TJ</b></p>
<b>Findings</b>		CAR 09 was raised and resolved.
<b>Conclusion</b>		The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /5/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

**SDG13-IDF05: Non- CO<sub>2</sub> emission factor arising from use of fuels in project scenario, tCO<sub>2</sub>/TJ**

<b>Means verification</b>	<b>of</b>	<p>EF<sub>p,nonCO2</sub> – IPCC default value <b>The verified value is: 9.46tCO<sub>2</sub>e/TJ</b></p>
<b>Findings</b>		CAR 04 and CAR 09 were raised and closed.
<b>Conclusion</b>		The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /5/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

**SDG13-IDF06: Net calorific value of charcoal fuel used in the baseline, TJ/ton**

<b>Means verification</b>	<b>of</b>	<p>NCV<sub>b</sub> - 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 1: Introduction, Table 1.2 - Default net calorific values Default IPCC values for wood/wood waste are applied. This value is used for the determination of baseline emissions.</p> <p><b>The verified value is: 0.015 TJ/ton</b></p>
<b>Findings</b>		No findings were raised.
<b>Conclusion</b>		The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /5/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

**SDG13-IDF07: Net calorific value of fuel used in the project, TJ/ton**

<b>Means verification</b>	<b>of</b>	<p>NCV<sub>p</sub> - 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 1: Introduction, Table 1.2 - Default net calorific values This value is used for the determination of baseline emissions</p> <p><b>The verified value is: 0.015 TJ/ton</b></p>
---------------------------	-----------	---

<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /5/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

**SDG13-IDF08: Non- renewability status of woody biomass fuel in scenario i during year y, fraction**

<b>Means of verification</b>	$f_{NRB,i,y}$ – Based on the study conducted by C4 EcoSolutions dated 26/10/2021 This value is used for the determination of baseline emissions <b>The verified value is: 73.998%</b>
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /5/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

**SDG13-IDF09: Conversion factor for transforming fuel wood into charcoal, kg firewood/ kg charcoal**

<b>Means of verification</b>	Default IPCC value (1996 IPCC Guidelines for National Greenhouse Gas Inventories) is applied ( <a href="https://www.ipcc-nggip.iges.or.jp/public/gl/guidelin/ch1ref3.pdf">https://www.ipcc-nggip.iges.or.jp/public/gl/guidelin/ch1ref3.pdf</a> ) This value is used for the determination of baseline emissions <b>The verified value is: 6</b>
<b>Findings</b>	No findings were raised.
<b>Conclusion</b>	The value mentioned in the Monitoring Report /4/ and Emission Reduction Spreadsheet /5/ are consistent with the registered VPA-DD/2/. The applied value is correct and justified.

**E.5.4.2. Data and parameters monitored**

**SDG13-IDM01: Quantity of fuel consumed in project scenario p during year y,  $P_{p,y}$  in t/household/year**

<b>Relevant Indicator</b>	<b>SDG13: Climate Action</b>	
<b>Means of verification</b>	<b>Criteria/Requirements</b>	<b>Assessment/Observation</b>
	Measuring /Reading /Recording frequency	The parameter is measured and recorded at least once every two years (biennial)
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DD /2/
	Monitoring equipment	This value is derived statistically based on surveys in project scenario, adopting minimum 3 consecutive days of charcoal

		consumption by the sampled household.
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	<p>This is statistically derived value whose computation is explained as follows: The 4 consecutive day consumption of the charcoal by the sampled household is calculated using 95/10 rule. The purpose of the calculation is to find the mean value of the charcoal consumption which is as close to the population mean as possible.</p> <p>The calculation behind this was verified from the project KPT mentioned in the ER Sheet /5/. Since, for the project KPT, 90/30 confidence/ precision was followed and precision attained was 9%, the mean value was considered for ER calculation.</p> <p>The calculation steps, and the applicability with the methodology/6/ was ascertained and found that the value calculated was conservative.</p> <p>So, the computation are conservative and does not overestimate the charcoal consumption which in turns underestimates the emission reduction</p> <p>The samples drawn by the CME during this MP is 63 (after adjusting for outliers it came to 62) from the beneficiaries in project scenario and the value obtained is: 1.47 kg of charcoal per household per day or 0.53475 tonnes per year per household/9/</p>
	If applicable, has the reported data been cross-checked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	<p>The QA/QC processes were deemed to be appropriate and trustworthy. At the outset of each research, the equipment used in KPT is calibrated. Section E.5.7 of this report discusses calibration information. Personnel in charge of carrying out KPT studies are properly trained to supervise data collection and identify any inaccuracies in reported statistics.</p>
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM	Not Applicable

	Project Standard?	
<b>Findings</b>	Not applicable	
<b>Conclusion</b>	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

**SDG13-IDM02: Usage rate in project scenario p during year y determined on a sampling basis,  $U_{p,y}$ , Fraction(or %)**

Relevant SDG Indicator	SDG13: Climate Action	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DD /2/
	Monitoring equipment	Not applicable as this parameter is ascertained through surveys
	Calibration frequency /interval:	Not Applicable
	How were the values in the monitoring report verified?	This value is ascertained through annual surveys about the usage of the stoves in the project scenario. The value obtained during this monitoring period is 97.6% for age group 0-1 and 97.4% for age group 1-2./9/. However, the maximum value that CME can claim is 90%, hence 90% was applied. This value was accepted after checking the user habit survey results /9/provided by the CME. It is to be noted that BURN has a robust system to ensure that the end users are constantly in touch and at the same time engage the field staffs to ascertain the grievances and rectify them to ensure that the intended beneficiary does not drop off from the program owing to assimilation barrier experienced due to new technology adoption.
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Not Applicable as the data is based on surveys and interviews with the beneficiaries
	In case project participants have temporarily not	Not Applicable

	monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	
<b>Findings</b>	Not applicable	
<b>Conclusion</b>	The parameter has been monitored appropriately, in accordance with the monitoring plan/2/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the frequency in the monitoring plan/2/.	

**SDG13-IDM03: Technologies in the monitoring Database for project scenario p through year y, N<sub>p,y</sub>, Number**

<b>Relevant SDG Indicator</b>	<b>SDG13: Climate Action</b>	
<b>Means of verification</b>	<b>Criteria/Requirements</b>	<b>Assessment/Observation</b>
	Measuring /Reading /Recording frequency	This parameter is measured continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DD /2/
	Monitoring equipment	<p>BURN keeps records of all distributed ICS in an electronic database. The basic data recorded inn KoboCollect database includes following information:</p> <ul style="list-style-type: none"> <li>• Unique serial number (USN) of the ICS</li> <li>• Date of shipment to distributor/retailer</li> <li>• Name of distributor/seller</li> <li>• Quantity of ICS distributed</li> <li>• Geographic are (state) of distributor/ retailer</li> <li>• Model type of ICS</li> </ul> <p>Other than this, the distribution database will also contain end-user contact details (name, state, mobile number, or national ID number) of atleast 10 times the survey and field test sample size (including usage surveys for each age of product), to ensure an adequate end-user pool to which random sampling can be applied. To claim the ICS warranty, end-users must register their end-user details through SMS or call.</p> <p>The verified value of the parameter is 4,814.68.</p>
Calibration frequency /interval:	Not Applicable	

	How were the values in the monitoring report verified?	The data is verified by checking the records of the KoboCollect cloud-based database excel spreadsheets download /8/
	If applicable, has the reported data been cross-checked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
<b>Findings</b>	None	
<b>Conclusion</b>	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology /6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

**SDG13-IDM04: Leakage in project scenario p during year y,  $LE_{p,y}$ , tCO2e/year**

<b>Relevant SDG Indicator</b>	<b>SDG13: Climate Action</b>	
<b>Means of verification</b>	<b>Criteria/Requirements</b>	<b>Assessment/Observation</b>
	Measuring /Reading /Recording frequency	At least once every two years (biennial)
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DD /2/
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not Applicable
	How were the values in the monitoring report verified?	<p>The verified value in this monitoring period was assessed to be: 0</p> <p>There are 5 ways in which the leakages can occur in this project activity</p> <ul style="list-style-type: none"> <li>i. The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.</li> <li>ii. Non-project users who previously used lower emitting energy sources use the non-renewable biomass or fossil fuels saved</li> </ul>

		<p>under the project activity.</p> <ul style="list-style-type: none"> <li>iii. The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario.</li> <li>iv. The project population compensates for loss of the space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.</li> <li>v. By virtue of promotion and marketing of a new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline.</li> </ul> <p>However, all the five conditions can be discounted as follows:</p> <ul style="list-style-type: none"> <li>i. The displaced baseline technology is the most common and easily available cooking method in the project area and most of households usually sale off the old stove as scrap metal or throw it away upon purchase of ICS. It is highly unlikely that displaced baseline technology is reused outside the project boundary.</li> <li>ii. Project users have to spend money for the charcoal. It can be excluded that the fuel saved by the project would be given for free by the project users and used by non-project users who previously used lower emitting energy sources</li> <li>iii. The project is too small that it would have significant impact on the NRB fraction. Besides, demand for charcoal in DRC is continuously rising. Since, alternative fuels (like LPG or electricity) are out of reach for many people. Hence, the share of NRB remains high and it will not have a leakage impact on other carbon projects in DRC.</li> <li>iv. The climate conditions for most of the areas in DRC do usually not require space or room heating. It is very unlikely that the charcoal ICS would be used for space or room heating. This can be confirmed through annual monitoring surveys</li> <li>v. The project's target group is households using charcoal. It is highly unlikely that households using electricity for cooking would use the project technology. Thus, leakage can be excluded.</li> </ul> <p>The calculation steps involved in the sampling method was cross checked and assessed and found to be correct.</p>	
	<p>If applicable, has the reported data been cross-checked with other available data?</p>	<p>Not applicable</p>	

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
<b>Findings</b>	None	
<b>Conclusion</b>	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology /6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

**SDG13-IDM05: Adjustment to account for any continued use of pre- project devices (baseline stove) in the project scenario during year y,  $\mu_y$ , tCO<sub>2e</sub>/year**

<b>Relevant SDG Indicator</b>	<b>SDG13: Climate Action</b>	
<b>Means of verification</b>	<b>Criteria/Requirements</b>	<b>Assessment/Observation</b>
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DD /2/
	Monitoring equipment	BURN monitors the value of this parameter using the Monitoring Usage Survey Questionnaires.
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The values in the monitoring report were verified from the usage surveys which include the project KPTs submitted as it also includes the fuels consumed on any baseline stoves. Therefore, no separate survey has been necessary for this verification. The value of the parameter is the average proportion of the use of the project ICS in relation to all pre-project stoves in use in the household, weighted per age group. The value verified for the parameter is 0.92.

	If applicable, has the reported data been cross-checked with other available data?	Not Applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
<b>Findings</b>	None	
<b>Conclusion</b>	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology /6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

**SDG1-IDM06: Monetary savings related to the purchase of charcoal, Percentage**

<b>Relevant SDG Indicator</b>	<b>SDG 1: End poverty in all its forms everywhere</b>	
<b>Means of verification</b>	<b>Criteria/Requirements</b>	<b>Assessment/Observation</b>
	Measuring /Reading /Recording frequency	This parameter is measured on annual basis
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The frequency is in line with the registered PoA-DD/1/ and VPA-DD /2/
	Monitoring equipment	Direct calculation based on results from the usage survey.  The value achieved during this monitoring period is 45.20%. Carrying out surveys (either site visits or telephone surveys) to check on the money spent for purchasing charcoal in the project scenario compared to the baseline scenario
	Calibration frequency /interval:	Not Applicable
	How were the values in the monitoring report verified?	The reduction in fuel consumption is verified from the usage survey conducted.
	If applicable, has the reported data been cross-checked with	Not Applicable

	other available data?	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
<b>Findings</b>	None	
<b>Conclusion</b>	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology /6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

**SDG3-IDM07: Perceived Air Quality, %**

<b>Relevant Indicator</b>	<b>SDG 3: Good Health and Well Being</b>	
<b>Means of verification</b>	<b>Criteria/Requirements</b>	<b>VVB Assessment</b>
	Measuring /Reading /Recording frequency	Biennial (Every two years)
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency in line to the GS4GG transition annex /7/ and VPA-DD /2/.
	How were the values in the monitoring report verified?	Since the ICS distribution reduces the indoor air pollution, the number of beneficiaries under this VPA5 are considered to have achieved this SDG target. The records checked for SDG1 No poverty i.e., the records of number of VPA ICS distributed/8/ in monitoring database, ex-post monitoring survey records/9/ were used for this parameter as well. The value obtained was found to be consistent.  The verified value is: 98.94%
	If applicable, has the reported data been cross-checked with other available data?	Monitoring database records, Usage surveys

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
<b>Findings</b>	None	
<b>Conclusion</b>	Sustainability criteria was found to be fulfilled. The monitoring and reporting is as per the GS PoA-DD /1/ and VPA-DD/2/. The representation of the monitored value was found to be accurate which was easily verifiable. No discrepancy in data monitoring, data management, transfer of data or QA/QC procedures was found.	

**SDG7-IDM08: Number of sold/ distributed ICS in use, Number**

<b>Relevant SDG Indicator</b>	<b>SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all</b>	
<b>Means of verification</b>	<b>Criteria/Requirements</b>	<b>VVB Assessment</b>
	Measuring /Reading /Recording frequency	Continuous
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the GS4GG rules/7/ and VPA-DD /2/.
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The project records like contracts, payment slips, employee list, database/ sales records or Monitoring Survey Records/9/ were checked to find out the number of ICS in use.  To calculate the value the total number of ICS sold/distributed is summed up in the database and multiplied with usage rate.  The verified value is 8,832.
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
In case project participants have temporarily not monitored the parameter, has either i) a deviation been	Not applicable	

	approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	
<b>Findings</b>	None	
<b>Conclusion</b>	Sustainability criteria was found to be fulfilled. The monitoring and reporting is as per the GS PoA-DD /1/, GS4GG rules/7/ and VPA-DD/2 /. The representation of the monitored value was found to be accurate which was easily verifiable. No discrepancy in data monitoring, data management, transfer of data or QA/QC procedures was found.	

**SDG8: IDM10: Number of people directly employed by the project, Number**

Relevant SDG Indicator	SDG7: Decent Work and Economic growth	
Means of verification	Criteria/Requirements	VVB Assessment
	Measuring /Reading /Recording frequency	Annual
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency is in line to the GS4GG rules/7/ and VPA-DD /2/.
	Monitoring equipment	Direct measurement based on employment numbers of those employed directly by the project
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The project records like contracts, payment slips, employee list or others /12//12.1/ were checked to identify as part of the assessment. Since the data collection is robust as stated above, and the source is primary, the value of 25 people being employed was verified.
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The QA/QC processes were deemed to be appropriate and trustworthy.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM	

	Project Standard?	
<b>Findings</b>	CL 09 was raised and closed.	
<b>Conclusion</b>	Sustainability criteria was found to be fulfilled. The monitoring and reporting is as per the GS PoA-DD /1/, GS4GG rules /7/ and VPA-DD/2/. The representation of the monitored value was found to be accurate which was easily verifiable. No discrepancy in data monitoring, data management, transfer of data or QA/QC procedures was found.	

**E.5.5. Implementation of sampling plan**

<b>Means of verification</b>	<p>The sampling plan was implemented by the CME in accordance with the Gold Standard methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption, Version 3.1/6/, and the CDM EB 110, Annex 1, Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities v.9.0/28/.</p> <p><b><u>Monitoring/ Usage Surveys and Project KPTs</u></b></p> <p>Data collecting for the usage/monitoring survey took place from April 1st to June 3rd, 2022. The BURN team educated a team of 21 Enumerators for data collection to ensure comprehension of usage/monitoring needs, data collecting technique, and special KPT requirements. The carbon officer from BURN's headquarters in Kenya and an external carbon consultant trained the DRC's main staff, which included team leaders and project managers. This team then trained a local team of 21 surveyors who were fluent in the local language and culture. The training was appropriately geared to use surveys/KPTs and included an interactive discussion of questions with surveyors, going over the usage survey questionnaire (data collecting form) and KPT questions, role plays, and interview procedures. The usage monitoring surveys and KPT households were visited between 1<sup>st</sup> April 2022 to 3<sup>rd</sup> June 2022. Additional usage surveys were conducted from 28/01/2023 to 18/02/2023.</p> <p><b>Sampling frame</b></p> <p>The sampling frame for the usage/monitoring survey and project KPTs consisted of households registered in BURN's sales database with end-user details (such as location, phone number, and so on).</p> <p><b>Sampling Method</b></p> <p>The simple random sampling method was applied. A random generator was used to choose registered households at random. The matching stoves were then picked from the database using random numbers, and their information were found and contacted by phone to arrange bookings for availability for physical visits and KPTs, as well as doing telephone usage surveys.</p> <p><b>Sample Size</b></p> <p>As per the applied methodology, the minimum sample size is 100. The PP sampled more stoves to cater for any possible non-responses at 163 for age group 0-1. A total of 281 surveys were carried out in this monitoring period.</p> <p><b>Telephone Survey</b></p> <p>The survey was conducted by trained Burn staff and a questionnaire was</p>
------------------------------	---

administered by telephone. All the data collectors spoke the local language which enabled full understanding of responses given by users, and any questions arising. Telephone surveys conducted were all recorded.

**In person Surveys**

In person surveys were conducted for the purpose of both the usage/monitoring survey, collection of KPT stoves. Data was collected by trained enumerators who spoke the local language. All households visited had the following evidence:

- i. GPS coordinates
- ii. Photographs showing general kitchen area

The sampled households for KPTs were asked prior to conducting the KPT whether they use the stove. Since KPTs are only to be conducted on operational stoves.

**Unreachable and declining households**

Out of all surveys conducted, there were households that declined to participate in the surveys, while others were unreachable during the duration of the survey period. For all unreachable households, the PP ensured to make at least 3 separate attempts to reach the household before they were discounted as unreachable. To replace such households, the PP ensured to select the next available household in the randomized list of households until they found a household available for the surveys. A total of 114 households were replaced due to unreachability of the households at the time of the surveys, while another 44 households declined to participate in the surveys for various reasons.

The main reasons for replacement of households selected were:

- i. The telephone number could not be reached at least 3 attempts made on 3 days
- ii. Uncooperative/Hostile respondents; e.g. did not want to participate
- iii. The primary cook unavailable during the data collection period e.g. travelled.

**Results**

**Usage Survey**

Type of survey	Period of survey	Actual number of samples Conducted	Achieved precision
Usage/monitoring survey	1 <sup>st</sup> April to 3 <sup>rd</sup> June 2022	163	Not applicable. Minimum sample size of 100

	Usage/ monitoring surveys	28 <sup>th</sup> January 2023 to 18 <sup>th</sup> February 2023	125	Not applicable. Minimum sample size of 100.							
	<p>Since, as part of first round of Performance Review by GS, additional surveys were conducted to account for ageing categorization.</p> <p><b>Kitchen Performance Tests</b></p> <table border="1"> <thead> <tr> <th>Stove type</th> <th>Period of KPT</th> <th>Actual number of samples (N° of stoves) conducted</th> <th>Achieved precision</th> </tr> </thead> <tbody> <tr> <td>Jikokoa</td> <td>11/04/2022 to 24/05/2022</td> <td>63</td> <td>9%</td> </tr> </tbody> </table> <p>Since for the project KPT, the 90/30 precision was followed and precision attained was 9% the mean bound value was considered for ER calculation.</p>				Stove type	Period of KPT	Actual number of samples (N° of stoves) conducted	Achieved precision	Jikokoa	11/04/2022 to 24/05/2022	63
Stove type	Period of KPT	Actual number of samples (N° of stoves) conducted	Achieved precision								
Jikokoa	11/04/2022 to 24/05/2022	63	9%								
<b>Findings</b>	None										
<b>Conclusion</b>	The verification team confirmed that the sampling plan and the parameter values are in accordance with the monitoring plan provided in PoA DD/1/ and the VPA DD/2/.										

**E.5.6. Assessment of data and calculation of emission reductions or net removals**

**E.5.6.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact**

<b>Means of verification</b>	<b>1- <u>SDG-13: Climate Action</u></b>							
	The equations used were found consistent with the revised accepted PoA DD /1/, revised accepted VPA DDs/2/ and the applied methodology TPDDTEC, version 3.1/6/							
	According to the methodology TPDDTEC, version 3.1, emission reductions shall be calculated as: $ER_y = \sum_{b,p} (N_{p,y} * U_{p,y} * P_{p,b,y} * NCV_{b, fuel} * (f_{NRB,b, y} * EF_{fuel, CO2} + EF_{fuel, nonCO2})) - \sum LE_{p,y}$							
	Where,							
	<table border="1"> <tr> <td><math>\sum_{b,p}</math></td> <td>Sum over all relevant (baseline b/project p) couples</td> </tr> <tr> <td><math>N_{p,y}</math></td> <td>Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y</td> </tr> <tr> <td><math>U_{p,y}</math></td> <td>Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)</td> </tr> <tr> <td><math>P_{p,b,y}</math></td> <td>Specific fuel savings for an individual technology of project p</td> </tr> </table>	$\sum_{b,p}$	Sum over all relevant (baseline b/project p) couples	$N_{p,y}$	Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y	$U_{p,y}$	Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)	$P_{p,b,y}$
$\sum_{b,p}$	Sum over all relevant (baseline b/project p) couples							
$N_{p,y}$	Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y							
$U_{p,y}$	Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)							
$P_{p,b,y}$	Specific fuel savings for an individual technology of project p							

	against an individual technology of baseline b in year y, in tons/day, as derived from the statistical analysis of the data collected from the field tests
$f_{NRB,b,y}$	Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass (drop this term from the equation when using a fossil fuel baseline scenario)
$NCV_{b,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.015 TJ/ton)
$EF_{b,fuel,CO2}$	CO2 emission factor of the fuel that is substituted or reduced. 112 tCO2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{b,fuel,nonCO2}$	Non-CO2 emission factor of the fuel that is reduced
$LE_{p,y}$	Leakage for project scenario p in year y (tCO2e/yr)

The methodology directly provides the following equation for emission reductions; without separate baseline, project or leakage emission reduction equations

$$P_{p,b,y} = (P_{b,y} - P_{p,y}) * CF$$

$P_{p,b,y}$	Specific fuel savings in wood equivalent
$P_{b,y}$	Baseline fuel consumption
$P_{p,y}$	Project fuel consumption
CF	Wood-to-charcoal conversion factor

**b) SDG-1: No Poverty**

In the baseline scenario, it is estimated that households spend 100% in charcoal fuel, i.e., that there are no savings. The savings are a result of the implementation of the project activity.

**c) SDG-3: Good health and well-being**

In the baseline scenario, it is estimated that 100% of the households suffer pollution-related inconveniences (such as smoke levels, itchy eyes and breathing problems).

Improved air quality is a result of the implementation of the project activity.

**d) SDG-7: Affordable clean energy**

In the baseline scenario, it is estimated that no improved cookstoves are implemented, hence the baseline value is zero. The distribution of improved cookstoves is a result of the implementation of the carbon project activity.

**e) SDG-8: Decent Work**

In the baseline scenario, it is estimated that no jobs are being generated. Job creation is a result of the implementation of the carbon project activity.

Detailed assessment of all the parameters used to calculate emission reductions is provided under section E.5.4.2.

The calculations presented in the Monitoring Report /4/ and the corresponding ER sheet /4/ were found appropriate and complying with provisions prescribed in the registered monitoring plan/1/ of the respective revised accepted VPA-DD/2/, PoA-DD/1/ and applied methodology/6/.

**Findings**

CAR 05 was raised and resolved.

<b>Conclusion</b>	<p>The verification team verified that</p> <ol style="list-style-type: none"> <li>a) A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.5.4.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet /5/ of final Monitoring Report /4/.</li> <li>b) The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.5.4.2 of this report.</li> <li>c) The calculations of baseline emissions as presented in the corresponding ER calculations sheet /5/ of final Monitoring Report /4/ were checked and found to be consistent with the formulae and methods described in the monitoring plan of VPA-DD /2/, registered PoA-DD /1/ and the applied methodology/6/.</li> <li>d) All assumptions used in the emission calculations were found appropriate and therefore justified</li> <li>e) Appropriate emission factors, IPCC default factors and other reference values have been correctly applied. This has also been elaborated under Section E.5.4.1 of this report.</li> <li>f) No standardized baseline was prescribed in the registered PoA-DD /1/.</li> </ol>
-------------------	--

**E.5.6.2. Calculation of project value or estimation of project situation of each SDG Impact**

<b>Means of verification</b>	<p>a) <u>SDG-13: Climate Action</u></p> <p>The transparent ex-post calculations of the outcomes of SDG 13 (i.e., CO2e reductions) are provided in a separate excel spreadsheet uploaded to GS registry for the performance certification review.</p> <p>The methodology directly provides the following equation for emission reductions; without separate baseline, project or leakage emission reduction equations.</p> $ER_y = \sum_{b,p} (N_{p,y} * U_{p,y} * P_{p,b,y} * NCV_{b, fuel} * (f_{NRB,b,y} * EF_{fuel, CO2} + EF_{fuel, nonCO2})) - \sum LE_{p,y}$ <p>Where,</p> <p><math>\sum_{b,p}</math>: Sum over all relevant (baseline b/project p) couples</p> <p><math>N_{p,y}</math>: Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y</p> <p><math>U_{p,y}</math>: Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)</p> <p><math>P_{p,b,y}</math>: Specific fuel savings for an individual technology of project p against an individual technology of baseline b in year y, in tons/day, as derived from the statistical analysis of the data collected from the field tests</p> <p><math>f_{NRB_{b,y}}</math>: Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass (drop this term from the equation when using a fossil fuel baseline scenario)</p> <p><math>NCV_{b,fuel}</math>: Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.015 TJ/ton)</p> <p><math>EF_{b,fuel,CO2}</math>: CO2 emission factor of the fuel that is substituted or reduced. 112 tCO2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel</p> <p><math>EF_{b,fuel,nonCO2}</math>: Non-CO2 emission factor of the fuel that is reduced</p> <p><math>LE_{p,y}</math>: Leakage for project scenario p in year y (tCO2e/yr)</p> $P_{p,b,y} = (P_{b,y} - P_{p,y}) * CF$
------------------------------	--

	<p><math>P_{p,b,y}</math> : Specific fuel savings in wood equivalent  <math>P_{b,y}</math> : Baseline fuel consumption  <math>P_{p,y}</math> : Project fuel consumption  CF : Wood-to-charcoal conversion factor</p> <p>Results from this monitoring period shows that in MPI, the project has achieved 27,255 tCO<sub>2</sub>e emission reductions.</p> <p>b) <u>SDG-1: No Poverty</u>  The monitoring of SDG 1 has been made through a qualitative evaluation of a sample of households during the usage/monitoring survey (either site visits or telephone surveys) to check on the money spent for purchasing charcoal in the project scenario compared to the baseline scenario. Results from this monitoring period show that in average the monetary savings are 45.20% related to the purchase of charcoal in the project scenario.</p> <p>c) <u>SDG-3: Good health and well-being</u>  The monitoring of SDG 3 has been made through a qualitative evaluation of a sample of households during the usage/monitoring survey (either site visits or telephone surveys) to check on the pollution-related inconveniences (such as smoke levels, itchy eyes and breathing problems) in the project scenario compared to the baseline scenario. Results from this monitoring period show that 98.94% of respondents perceive air quality improvements at their homes since purchasing and cooking with the project stove as compared to the baseline.</p> <p>d) <u>SDG-7: Affordable clean energy</u>  The parameter 'project technologies in use' has been calculated as part of the outcome calculation for SDG 13 and is provided in the separate ER calculation excel spreadsheet. The eligible project technology days are multiplied with the usage rate (<math>U_{p,y}</math>) to determine the 'project technologies in use'. In this monitoring period, the project technologies in use have been calculated as 8,832.</p> <p>e) <u>SDG-8: Decent Work</u>  The number of created jobs has been determined for the respective years of the monitoring period. Both Casual and Contract employees have been considered for this parameter. 25 local jobs have been created in this monitoring period. An employee list has been provided as a supporting document.</p>
<b>Findings</b>	CAR 05 was raised and resolved.
<b>Conclusion</b>	<p>The verification team verified that:</p> <p>a) A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.5.4.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet /5/ of final Monitoring Report /4/.</p> <p>b) The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.5.4.2 of this report.</p>

**E.5.6.3. Calculation of leakage**

<b>Means of verification</b>	The 5 conditions under which the leakage should be accounted for is not observed in this project activity. The detailed discussion on the same is provided in section E.5.4.2 above under the parameter: SDG13-IDM04
<b>Findings</b>	None

<b>Conclusion</b>	A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.5.4.2 of this report. The complete monitoring data is also presented in the corresponding ER calculations sheet /5/ of final Monitoring Report /4/. The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.5.4.2 of this report.
-------------------	--

**E.5.6.4. Calculation of net benefits or direct calculation for each SDG Impact**

<b>Means verification of</b>	<b>SDGs Targeted</b>	<b>SDG Impact</b>	<b>Baseline estimate</b>	<b>Project estimate</b>	<b>Net benefit</b>
	13	Climate Action	27,255	N/A	27,255 tCO <sub>2</sub> e ERs
	1	No Poverty	0%	45.20%	45.20%
	3	Good Health and well being	0%	98.94%	98.94%
	7	Affordable and clean energy	0	8,832 end-users	8,832 end-users
	8	Decent work and economic growth	0	25	25
<p>The calculation methods applied for all the SDG impacts were checked with the registered PoA-DD/1/ and VPA-DD/2/. The verification team confirms that the stated figures were checked and found acceptable.</p>					
<b>Findings</b>	CL 1 and CAR 06 and CAR 07 were raised and resolved.				
<b>Conclusion</b>	<p>The verification team confirms that</p> <ol style="list-style-type: none"> <li>The complete data was available and is duly reported</li> <li>As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.4 of this report);</li> <li>Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed</li> <li>Appropriate emission factors, IPCC default factors and other reference values were correctly applied.</li> <li>The total number of VERs achieved during the current monitoring period is 27,255 tCO<sub>2</sub>e.</li> </ol>				

**E.6. Comparison of actual SDG Impacts with estimates in approved PDD**

<b>Means verification of</b>	From Section E.5 of the Monitoring Report, it is apparent that estimated values were off while the project monitored its progress.			
	<b>SDGs Targeted</b>	<b>SDG Impact</b>	<b>Values estimated in ex ante calculation of approved PoA-DD for this monitoring period</b>	<b>Actual values achieved during this monitoring period</b>
	13	Climate Action	73,822 tCO <sub>2</sub> e ERs	27,255 tCO <sub>2</sub> e ERs
	1	No Poverty	45.20%	45.20%

	3	Good Health and well being	98.94%	98.94%
	7	Affordable and clean energy	14,390	8,832
	8	Decent Work and Economic Growth	25	25
<p>As the result of the VPA-DD, 73,822 tCO<sub>2</sub>e were expected to be reduced within a time frame of 01/01/2021- 01/04/2022 (both days inclusive is 456 days). However, based on monitoring data, actual emission reductions so far are only 27.255tCO<sub>2</sub>e during this monitoring period ie., 36.91% of the estimated emissions reductions was achieved during this monitoring period.</p> <p>The actual SDG targets against the anticipated values in PoA-DD is lower for SDG 7 and equivalent for SDG 1, SDG 3 and SDG 8.</p>				
<b>Findings</b>	None			
<b>Conclusion</b>	The actual emission reductions achieved in the current monitoring period for the VPA is lower than the emission reductions and equivalent for other SDG targets stated in the VPA-DD /2/. Therefore, it has been accepted by the verification team.			

**E.6.1. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD**

<b>Means of verification</b>	The Monitoring Report /4/ and corresponding ER calculations sheet /5/, show that the actual emission reductions achieved for project stove during this monitoring period are equivalent to those estimates provided in VPA-DD /2/.
<b>Findings</b>	None
<b>Conclusion</b>	No justification was sought from the PD because the achievement of emission reductions were lower than what had been estimated.

**E.7. Stakeholder Inputs and Legal Disputes**

<b>Means of verification</b>	Not applicable
<b>Findings</b>	None
<b>Conclusion</b>	Not Applicable

**SECTION F. Internal quality control**

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

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

**SECTION G. Verification opinion**

Earthood Services Private Limited (Earthood), contracted by, has performed the independent verification of the emission reductions for the GS Project 11433 "Efficient and Clean Cooking for households in the Democratic Republic of Congo (DRC)" in the host country "Democratic Republic of Congo" for the monitoring period 01/01/2021 to 01/04/2022 (both dates inclusive), as reported in the Monitoring Report, Version 1.7 dated 13/06/2023. The 'BURN' is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity. Earthood commenced the verification against the baseline and monitoring methodology "TPDDTEC - "Technologies and Practices to Displace Decentralized Thermal Energy Consumptions, Version 3.1", the monitoring plan contained in the VPA-DD and Monitoring Report Version 1.7 dated 13/06/2023.

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

The verification team confirms that:

- The PoA was found completely implemented as per the description given in the registered VPA -DD.
- The actual operation conforms to the description in the registered PoA - DD and VPA- DD

**SECTION H. Certification statement**

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

In our opinion, the GHG emissions reductions reported for the project activity are fairly stated in the Monitoring Report (final) Version 1.7 dated 13/06/2023. ESPL, based on outcome of verification activities, certifies in writing that, during the monitoring period 01/01/2021 to 01/04/2022 (inclusive of both the dates), the registered GS PoA "ECO\_A\_BURN multi country Clean Cooking Programme" achieved the verified amount of 27,255 tCO<sub>2</sub>e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the PoA. The verified amount of emission reductions is stated below as per implemented VPAs and as per commitment period:

**Verified and certified emission reductions as per monitoring period:**

<b>Monitoring period</b>	<b>Amount (tCO<sub>2</sub>e)</b>
From 01/01/2021 till 31/03/2021	21,816
From 01/01/2022 till 01/04/2022	5439
<b>Total</b>	<b>27,255</b>

## Appendix 1. Abbreviations

<b>Abbreviations</b>	<b>Full texts</b>
AQL	Acceptable Quality Level
CAR	Corrective Action Request

CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PS	Clean Development Mechanism Project Standard
CDM VVS	Clean Development Mechanism Validation and Verification Standard
CER	Certified Emission Reduction
CH4	Methane
CL	Clarification Request
CME	Coordinating and Managing Entity
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CO2	Carbon dioxide
COVID	Corona Virus Disease
COV	Coefficient of Variance
CPA	Component Project Activity
CP	Crediting period
DNA	Designated National Authority
EB	Executive Board
ER	Emission Reductions
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG	Gold Standard for Global Goals
GPS	Geographical Positioning System
HH	Household
ICS	Improved Cook Stoves
ID	Identity
IR	Internal Resource
IPCC	Intergovernmental Panel on Climate Change
Kg	kilogram
KPT	Kitchen Performance Test
MR	Monitoring Report
NCV	Net Calorific Value
PDD	Project Design Document
PO	Purchase Order
PoA	Programme of Activities
QA/QC	Quality Assurance/ Quality Control
RMP	Registered monitoring plan
RSV	Remote Site Visit
TA	Technical Area (with in Sectoral Scope)
TR	Technical Review/er
TJ	Terra Joule
VCR	Verification and Certification report
VER	Verified Emission Reduction
VVS	Validation and Verification Standard
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Level
VPA/VPA-DD	VPA is for 'Verified Project Activity' (whereas DD stands for Design Document)
VVB	Validation and Verification Body
UNFCCC	United Nation Framework convention on Climate change
QA/QC	Quality Assurance and Quality control
GS4GG	Gold Standard for Global Goals

## Appendix 2. Competence of team members and technical reviewers

Competence Statement			
Name	Arohi Jain		
Education	M. Sc. Environmental Sciences B.Sc. Biology		
Experience	3 years		
Field	Environmental Sciences		
Approved Roles			
Team Leader	Yes (VM)		
Validator	Yes (VM)		
Verifier	Yes (VM)		
Methodology Expert	Yes (VMR0006, TPDDTEC)		
Local expert	Yes (India)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	Yes		
Reviewed by	Shifali Guleria, Quality Manager	<b>Date</b>	10/03/2023
Approved by	Deepika Mahala, Technical Manager	<b>Date</b>	10/03/2023

Competence Statement			
Name	N Premjit Singh		
Education	B.Tech (Mechanical Engineering) M.Tech (Energy Technology) PhD (Mechanical Engineering)		
Experience	9+ Years		
Field	Climate Change, Energy		
Approved Roles			
Team Leader	Yes		
Validator	Yes		
Verifier	Yes		
Methodology Expert	AMS I.D, ACM0002		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES (VM)		
TA Expert (X.X)	YES (TA 1.2, 3.1)		
Reviewed by	Shifali Guleria, Quality Manager	<b>Date</b>	30/09/2022
Approved by	Deepika Mahala, Technical Manager	<b>Date</b>	30/09/2022

<b>Competence Statement</b>			
<b>Name</b>	Shifali Guleria		
<b>Education</b>	M.Sc. (Environmental Studies and Resource Management), TERI University		
<b>Experience</b>	3+ year		
<b>Field</b>	Climate Change		
<b>Approved Roles</b>			
<b>Team Leader</b>	YES		
<b>Validator</b>	YES		
<b>Verifier</b>	YES		
<b>Methodology Expert</b>	YES (AMS-I.A., AMS-II.G., AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002)		
<b>Local expert</b>	YES		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	YES		
<b>TA Expert</b>	YES (1.2, 3.1)		
<b>Reviewed by</b>	Deepika Mahala	<b>Date</b>	16/02/2022
<b>Approved by</b>	Ashok Gautam	<b>Date</b>	18/02/2022

<b>Competence Statement</b>			
<b>Name</b>	Shreya Garg		
<b>Country</b>	India		
<b>Education</b>	M.Sc. (Climate Science & Policy), TERI University		
<b>Experience</b>	9 Years +		
<b>Field</b>	Climate Change		
<b>Approved Roles</b>			
<b>Team Leader</b>	YES		
<b>Validator</b>	YES		
<b>Verifier</b>	YES		
<b>Methodology Expert</b>	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., AMS.III.BL, ACM0002, ACM0012		
<b>Local expert</b>	YES (India)		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	YES		
<b>TA Expert</b>	YES (TA 1.2, TA 3.1)		
<b>Reviewed by</b>	Shifali Guleria	<b>Date</b>	26/04/2022
<b>Approved by</b>	Deepika Mahala	<b>Date</b>	26/04/2022

Competence Statement			
<b>Name</b>	Emmanuel Kasiho		
<b>Education</b>	Master's in business administration B.Sc. Civil Engineering		
<b>Experience</b>	3+ years		
<b>Field</b>	Civil Engineering		
Approved Roles			
<b>Team Leader</b>	NO		
<b>Validator</b>	NO		
<b>Verifier</b>	NO		
<b>Methodology Expert</b>	NO		
<b>Local expert</b>	YES (Democratic Republic of Congo)		
<b>Financial Expert</b>	NO		
<b>Technical Reviewer</b>	NO		
<b>TA Expert (X.X)</b>	NO		
<b>Reviewed by</b>	Shifali Guleria (Quality Manager)	<b>Date</b>	26/07/2022
<b>Approved by</b>	Deepika Mahala (Technical Manager)	<b>Date</b>	26/07/2022

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	BURN Manufacturing Co.	PoA-DD	Version 4.1 dated 13/10/2021	CME
2.	BURN Manufacturing Co.	VPA-DD	Version 2.6 dated 13/06/2023	CME
3.	ESPL	Validation Report for inclusion of VPA	Version 3.1 dated 17/06/2023	Others
4.	BURN Manufacturing Co.	Monitoring Report	Version 1.7, Dated 13/06/2023	CME
4.1	GS4GG	Monitoring report template Guide	Version 1.1, published on 14/10/2020	GS4GG
5.	BURN Manufacturing Co.	13JUNE2023 GS10789_GS11433_DRC_ Reporting Template_CONFIDENTIAL	Dated 13/06/2023	CME
6.	The Gold Standard Foundation	The Gold Standard Simplified Methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC)	Version 3.1, Dated 25/08/2017	Others

7.	BURN Manufacturing Co.	16082022_GS11433_DRC_Database Technology Days and Stoves in Use-Jiko	Dated 16/08/2022	CME
8.	BURN Manufacturing Co.	16092022_GS11433_ER cal, Usage and project KPT	Dated 16/09/2022	CME
9.	BURN Manufacturing Co.	DRC_RSV_Checklist_Ver	Dated 30/08/2022	VVB
10.	BURN Manufacturing Co.	1AUG2022 Manufacturers Specifications BURN Jikokoa Stoves	-	CME
11.	BURN Manufacturing Co.	28SEP2022 GS10789_GS11433_DRC_Employee List - DRC.xlsx	Dated 17/03/2022	CME
12	BURN Manufacturing Co.	28SEP2022 GS10789_GS11433_DRC_Employee List - DRC.xlsx	-	CME
14.	BURN Manufacturing co.	20201203_BURN GS PoA_10789__DRC_Baseline KPT Surveys v1.1-Jiko	-	CME
15.	IPCC	IPCC Guidelines for National Greenhouse Gas Inventories 2.1 ( <a href="http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf">http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf</a> )	-	Others
16.	GS4GG	Form: GS-MR-FORM	Version 1.1, Dated 14/10/2020	Others
17.	BURN Manufacturing co.	DRC_fNRB Report_v1.3_CONFIDENTIAL	Dated 20/05/2023`	Others
18.	BURN Manufacturing co.	22JULY2022 POA 10789 _VPA 005_Screenshot of 1st Stove	-	CME
19.	GS4GG	Principles and Requirements <a href="https://globalgoals.goldstandard.org/101-par-principles-requirements/">https://globalgoals.goldstandard.org/101-par-principles-requirements/</a>	Version 1.2 Dated October 2019	Others
20.	BURN Manufacturing co.	20JULY2022_GS_inclusion Letter BURN_VPA5_DRC	Dated 20/07/2022	CME
22.	BURN Manufacturing co.	22Jul2022 GS10789_GS11433_DRC_ODA-Declaration.pdf	Dated 02/11/2021	CME
22.	UNFCCC	VVS for PoA	Version 3.0	Others
23.	UNFCCC	PS for PoA	Version 3.0	Others
25.	UNFCCC	CDM guidelines for Sampling and surveys for CDM project activities and programmes of activities	Version 4.0	Others
26.	UNFCCC	Standard for Sampling and surveys for CDM project activities and programmes of activities	Version 09	Others
27.	UNFCCC	<a href="https://unfccc.int/cop7/documents/accords_draft.pdf">https://unfccc.int/cop7/documents/accords_draft.pdf</a>	21/01/2002	Others

28.	GS4GG	Principle and requirements	Version 1.2	Others
29.	GS4GG	PoA Requirements	Version 2.0	Others
30.	GS4GG	CSA Requirements	Version 1.2	Others
31.	IPCC	2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.5)	-	Others
32.	The Gold Standard Foundation	Rule update (03/06/2021): Applicability of GWP for GS for the Global Goals Projects	Dated 03/06/2021	Others
33.	IPCC	Default IPCC value (1996 IPCC Guidelines for National Greenhouse Gas Inventories) is applied  ( <a href="https://www.ipcc-nggip.iges.or.jp/public/gl/guidelin/ch1r3.pdf">https://www.ipcc-nggip.iges.or.jp/public/gl/guidelin/ch1r3.pdf</a> )	-	Others
34.	IPCC	IPCC 2019 value (Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories), volume 2, chapter 4, Table 4.3.3	-	Others

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

**TABLE 1. FAR FROM THIS VERIFICATION**

<b>FAR ID</b>	NA	<b>Section no.</b>		<b>Date : DD/MM/YYYY</b>
<b>Description of FAR</b>				
NA				
<b>CME response</b>				<b>Date : DD/MM/YYYY</b>
NA				
<b>Documentation provided by CME</b>				
NA				
<b>VVB assessment</b>				<b>Date: DD/MM/YYYY</b>

**TABLE 2. CAR FROM THIS VERIFICATION**

<b>CAR ID</b>	01	<b>Section no.</b>	Key Project Information	<b>Date : 05/09/2022</b>
<b>Description of CAR</b>				
CME is requested to update the version number of the VPA-DD applicable to this monitoring period.				
<b>CME response</b>				<b>Date : 08/09/2022</b>
The VPA-DD version number has been updated.				
<b>Documentation provided by CME</b>				
<b>VVB assessment</b>				<b>Date: 12/09/2022</b>

The VVB has verified the updated VPA- DD number applicable to this monitoring period.  
Hence, CAR 01 is closed.

<b>CAR ID</b>	02	<b>Section no.</b>	B.1	<b>Date</b> : 05/09/2022
<b>Description of CAR</b>				
The technical specifications of the cookstoves deployed in the VPA mention under section B.1 are not in accordance with the supporting document '02AUG2022 - Jikokoa BURN Manufacturer Specs' provided at the time of validation. CME is requested to review and update the same accordingly.				
<b>CME response</b>				<b>Date</b> : 08/09/2022
The technical specifications have been updated in the VPA-DD				
<b>Documentation provided by CME</b>				
<b>VVB assessment</b>				<b>Date:</b> 12/09/2022
The VVB has observed the following: <ul style="list-style-type: none"> <li>The parameters 'Firepower' and 'Boil Time' under section 'WBT Results' for Jikokoa G3.5 stove in MR version 1.1 are found to be inconsistent with the parameters 'Firepower' and 'Boil Time' mentioned for the same stove in the supporting document '02AUG2022 - Jikokoa BURN Manufacturer Specs' provided at the time of validation.</li> <li>The specifications for stoves 'Jikokoa Xtra (G4)' and 'Eco Char MMJ' have been cross-checked by the VVB and found to be OK.</li> </ul> <p>Hence, CAR 02 is open.</p>				
<b>CME response</b>				<b>Date</b> : 21/09/2022
The technical specifications provided in the Monitoring Report are correct. The correct manufacturer's specifications have now been provided to VVB				
<b>Documentation provided by CME</b>				
Manufacturer specifications				
<b>VVB assessment</b>				<b>Date:</b> 25/09/2022
VVB has cross checked section B.1 of updated MR with '1AUG2022 Manufacturers Specifications BURN Jikokoa Stoves' document and found the specifications to be consistent.  Hence, CAR 02 is closed.				

<b>CAR ID</b>	03	<b>Section no.</b>	C	<b>Date</b> : 05/09/2022
<b>Description of CAR</b>				
Section C of MR states, "Stoves were distributed to end-users by BURN directly or through dedicated distributors. Distributors were trained on the stove distribution and data collection procedures." However, it has been found while going through the supporting document 'Altech Group BURN addendum-signed February 2022 _CLAUSE 22_highli' that 'ALTECH GROUP' has sold the cookstoves for '20 USD'. CME is requested to review and revise the same.				
<b>CME response</b>				<b>Date</b> : 08/09/2022
The CME would like to state that the information provided in the MR is accurate as it stands. Altech Group is a distributor for BURN and it sells the stoves for USD 20 and it is trained to ensure that the data of end-user etc., is collected accurately.				
<b>Documentation provided by CME</b>				
<b>VVB assessment</b>				<b>Date:</b> 25/09/2022
VVB has analyzed the quoted statement updated by CME in the revised MR and found the changes to be appropriate.  Hence, CAR 03 is closed.				

<b>CAR ID</b>	04	<b>Section no.</b>	D.1	<b>Date</b> : 05/09/2022
---------------	----	--------------------	-----	--------------------------

<b>Description of CAR</b>			
<ul style="list-style-type: none"> <li>The source of GWP values in description of 'Choice of data or Measurement methods and procedures' for parameter <math>EF_{b,nonCO2}</math> and <math>EF_{p,nonCO2}</math> is found to be missing.</li> <li>The description of the parameters, <math>EF_{ch,prod,non-CO2}</math> and <math>EF_{ch,prod,CO2}</math> under section 'Data and parameters fixed ex-ante or at renewal of crediting period' is not included.</li> </ul> <p>CME is requested to review and update the same.</p>			
<b>CME response</b>			<b>Date :</b> 08/09/2022
<ul style="list-style-type: none"> <li>The source of GWP has been added</li> <li>The VVB shall note that the CME is not claiming CO2 and non-CO2 emissions from charcoal use. Therefore, these parameters are not included in the MR.</li> </ul>			
<b>Documentation provided by CME</b>			
<b>VVB assessment</b>			<b>Date:</b> 12/09/2022
<ul style="list-style-type: none"> <li>The sources provided for GWP values in description of 'Choice of data or Measurement methods and procedures' for parameter <math>EF_{b,nonCO2}</math> and <math>EF_{p,nonCO2}</math> have been verified by VVB and are found to be OK.</li> <li>The response for this point is found to be inappropriate. CME is requested to revise the same.</li> </ul> <p>Hence, CAR 04 remains open.</p>			
<b>CME response</b>			<b>Date :</b> 21/09/2022
The description of the parameters, $EF_{ch,prod,non-CO2}$ and $EF_{ch,prod,CO2}$ has been included under section 'Data and parameters fixed ex-ante or at renewal of crediting period' in the revised MR			
<b>Documentation provided by CME</b>			
Revised MR			
<b>VVB assessment</b>			<b>Date:</b> 25/09/2022
VVB has verified the inclusion of the description of parameters $EF_{ch,prod,non-CO2}$ and $EF_{ch,prod,CO2}$ by CME under section D.1 of revised MR and found it to be OK.			
Hence, CAR 04 is closed.			
<b>CAR ID</b>	05	<b>Section no.</b>	E.1 & E.2
<b>Date :</b> 05/09/2022			
<b>Description of CAR</b>			
<ul style="list-style-type: none"> <li>Under section E.1 and E.2, CME has provided the equations for emission reduction as screenshots. Requesting to kindly revise and provide as text format for better clarity to any third-party reader.</li> <li>Under section E.1, CME is requested to update the value of parameter 'Non-renewable biomass fraction (baseline)' in the table showing sample calculation for emission reductions for the year 2020 in accordance with the fNRB report submitted as the value type of the parameter is fraction.</li> </ul>			
<b>CME response</b>			<b>Date :</b> 08/09/2022
<ul style="list-style-type: none"> <li>Section E.1. and E.2. have been amended to provide this information in text as opposed to a screenshot</li> <li>The value of fNRB has been updated</li> </ul>			
<b>Documentation provided by CME</b>			
<b>VVB assessment</b>			<b>Date:</b> 12/09/2022
Equation for emission reduction under section E.1 & E.2 is revised in the MR and are found to be inline with the applied methodology TPDDTEC v3.1.			
Hence, CAR 05 is closed.			
<b>CAR ID</b>	06	<b>Section no.</b>	E.4
<b>Date :</b> 05/09/2022			
<b>Description of CAR</b>			
CME is requested to update the table under section 'Calculation of net benefits or direct calculations for each SDG Impact'.			
<b>CME response</b>			<b>Date :</b> 08/09/2022

The table has been updated.	
<b>Documentation provided by CME</b>	
<b>VVB assessment</b>	<b>Date:</b> 12/09/2022
The updated table under section 'Calculation of net benefits or direct calculations for each SDG Impact' has been assessed by the VVB. However, the emission estimates for the SDGs are still found to be inconsistent with the worksheet 'ER Calculation' of the spreadsheet '09092022_GS11433_ER cal, Usage and project KPT'. CME is requested update the same. Hence, CAR 06 is open.	
<b>CME response</b>	<b>Date :</b> 21/09/2022
The values for the SDGs have been updated in the table under section 'Calculation of net benefits or direct calculations for each SDG Impact'.	
<b>Documentation provided by CME</b>	
Revised MR	
<b>VVB assessment</b>	<b>Date:</b> 25/09/2022
VVB has assessed the table updated by CME under section 'Calculation of net benefits or direct calculations for each SDG Impact'.  However, the 'Baseline estimate' and 'Project estimate' values for 'SDG 13' are mentioned as N/a.  CME is requested to update the same.  Hence, CAR 06 is open.	
<b>CME response</b>	<b>Date :</b> DD/MM/YYYY
<b>Documentation provided by CME</b>	
<b>VVB assessment</b>	<b>Date :</b> DD/MM/YYYY

<b>CAR ID</b>	07	<b>Section no.</b>	E.5	<b>Date :</b> 05/09/2022
<b>Description of CAR</b>				
CME is requested to update the table under section 'Comparison of actual SDG Impacts with estimates in approved PDD' in accordance with the latest applicable VPA DD.				
<b>CME response</b>				<b>Date :</b> 08/09/2022
The table has been update				
<b>Documentation provided by CME</b>				
Revised VPA-DD				
<b>VVB assessment</b>				<b>Date:</b> DD/MM/YYYY
VVB has assessed the updated table under section 'Comparison of actual SDG Impacts with estimates in approved PDD'. The estimated and the achieved values for SDGs 1,3,8 and 13 are consistent with the latest applicable VPA DD. However, the value under column 'Actual values achieved during this monitoring period' for SDG 7 is found to be inconsistent with cell C54 in worksheet 'ER calculation' of document '30AUG2022_GS11433_ER cal Usage and project KPT'. CME is requested to update the same.  Hence, CAR 07 is open.				
<b>CME response</b>				<b>Date :</b> 21/09/2022
The value for SDG 7 has been revised and is in line with the worksheet 'ER calculation' of document '30AUG2022_GS11433_ER cal Usage and project KPT'				
<b>Documentation provided by CME</b>				
Revised MR				

<b>VVB assessment</b>	<b>Date:</b> 25/09/2022
CME has updated the value under column 'Actual values achieved during this monitoring period' for SDG which is found to be inline with cell C54 of 'ER calculation' worksheet in '16092022_GS11433_ER cal, Usage and project KPT' document.	
Hence, CAR 07 is closed.	

<b>CAR ID</b>	08	<b>Section no.</b>	-	<b>Date :</b> 05/09/2022
<b>Description of CAR</b>				
<ul style="list-style-type: none"> <li>• CME to requested to clearly mention about the partnership between 'BURN MANUFACTURING USA LLC' and 'ALTECH GROUP'.</li> <li>• VVB observed, supporting references mentioned as evidence in the MR are found to be inconsistent (no proper sequence of serial numbers) and the referencing is not provided in the footnotes. CME is requested to review and revise the same.</li> </ul>				
<b>CME response</b>				<b>Date :</b> 08/09/2022
The numbering of the footnotes has been revised and non-relevant have been removed.				
<b>Documentation provided by CME</b>				
Revised VPA-DD				
<b>VVB assessment</b>				<b>Date:</b> 12/09/2022
The revised references have been cross checked and verified by VVB.				
Hence, CAR 08 is closed.				

<b>CAR ID</b>	09	<b>Section no.</b>	30AUG2022_GS11433_ER cal Usage and project KPT	<b>Date :</b> 05/09/2022
<b>Description of CAR</b>				
VVB has observed that in the worksheet 'ER calculation', the details mentioned under column 'Unit' for Row 12 and Row 17 are incorrect. CME is requested to review and revise.				
<b>CME response</b>				<b>Date :</b> 08/09/2022
<b>Documentation provided by CME</b>				
The units in the 2 rows have been corrected.				
<b>VVB assessment</b>				<b>Date:</b> 12/09/2022
VVB has assessed the updated document, '09092022_GS11433_ER cal, Usage and project KPT' and observed that the values mentioned in Row 17 and 18 are inconsistent with section D.1 of updated MR. CME is requested to review and revise the same.				
Hence, CAR 09 is open.				
<b>CME response</b>				<b>Date :</b> 21/09/2022
The units in row 17 and 18 of 'ER calculation' of '09092022_GS11433_ER cal, Usage and project KPT' has been updated in line with the VPA-DD				
<b>Documentation provided by CME</b>				
Revised ER calculation sheet				
<b>VVB assessment</b>				<b>Date:</b> 25/09/2022
The updated ER sheet rows 17 and 18 are now inline with VPA DD.				
Hence, CAR 09 is closed.				

**TABLE 3. CL FROM THIS VERIFICATION**

<b>CL ID</b>	01	<b>Section no.</b>	E.5	<b>Date :</b> 05/09/2022
<b>Description of CL</b>				

Section E.5 mentions the 'Actual values achieved during this monitoring period' for SDG 8 to be 25. CME is requested to provide supporting evidence to substantiate the SDG 8 parameter.	
<b>CME response</b>	<b>Date :</b> 21/09/2022
Since the parameter is assessed for additional employment generation due to the project activity a copy of employment contract for 1 of the employees has been shared with VVB	
<b>Documentation provided by CME</b>	
Sample employment contract, employee list	
<b>VVB assessment</b>	<b>Date:</b> 25/09/2022
VVB has assessed the employee contract and employee list submitted by the CME and found them to be OK.	
Hence, CL 01 is closed.	