

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



PA Title: Himalayan Rocket Stove Project in India
Monitoring Period: 08/06/2021 to 28/02/2023(Both dates are included)
GS project ID: GS 10797
Internal ID: BELL_GS_VER_12123
Customer: Swiss Carbon Value Ltd
Date: 26/03/2025
Revision: 3.2

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
BELL_GS_VER_12123	25/08/2024	3.2	26/03/2025
GS4GG Verification			
GS4GG Certified Product (sought):		GHG Emission Reductions	
GS4GG SDG Impact Statement (sought):		Impact Certification	
General Information			
Client	Swiss Carbon Value Ltd		
GS Project Title	Himalayan Rocket Stove Project in India		
Project Participants	Swiss Carbon Value Ltd		
Project Location	The Himalayan states, the northern states, parts of eastern India and South India		
Contact Person	Mr. Russel Coliins, Founder & Director, Himalayan Rocket stove		
Monitoring Period	Monitoring Period No.: 01 08/06/2021 ¹ to 28/02/2023 (inclusive of both dates)		
GS4GG Version: GS4GG Principles and Requirements version 1.2 GS4GG Activity Requirements: - Community Services Activity Requirements, version 1.2 - Requirements and Guidelines: Usage Rate monitoring, version 2.0 - Validation and Validation Standard version 01.0 - GHG Emissions Reduction & Sequestration Product Requirements version 2.2 Applied Methodology Version: Technologies & Practices to Displace Decentralized Thermal Energy (TPDDTEC) version 03.1 https://globalgoals.goldstandard.org/standards/407_V3.1_EE_I_CS_Technologies-and-Practices-to-Displace-Decentralized-Thermal-Energy-TPDDTECConsumption-.pdf The following tools and guidance’s have been followed (References): Tool 30: Calculation of the fraction of non-renewable biomass version 3.0 ²		 <	

¹ Monitoring period has been changed to 08/06/2021 as per the approved deviation request GS772.

² <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v3.0.pdf>

Estimated SDG Goals for current monitoring period:

SDG No	Claimed SDG's	Estimated Values
7	Affordable & Clean Energy:	
	Number of Households got access to clean and affordable energy	99,950 stoves
13	Climate action:	
	GHG emission reductions:	770,584 tCO _{2e}
15	Life on Land:	
	Tonnes of firewood saved by project stove as compared to traditional stove.	748,168 Tons of wood

Actual SDG Goals achieved during current monitoring period:

SDG No	Claimed SDG's	Achieved values during the current monitoring period
7	Affordable & Clean Energy:	
	Number of Households got access to clean and affordable energy	6,571 Households
13	Climate action:	
	GHG emission reductions:	18,632tCO _{2e}
15	Life on Land:	
	Tonnes of firewood saved by project stove as compared to traditional stove.	17,557 Tons of wood saved

Selected Sustainable Development Goals (SDGs): 7, 13 and 15

Verification Summary

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Swiss Carbon Value Limited to perform the first verification of the GS project titled "Himalayan Rocket Stove Project in India" (GS ID 10797)³ applying the approved GS4GG methodology "GS Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 3.1".^{6/} The management of Swiss Carbon Value Limited is responsible for the preparation of the SDG impacts data and the reported SDG impacts.

A desk review and an on-site inspection have been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following have been reviewed:

- The GS4GG registered PDD including the monitoring plan;
- Monitoring report(s);
- The applied monitoring methodology;
- Relevant decisions, clarifications and guidance from the GS4GG Registry;

³ <https://registry.goldstandard.org/projects/details/2754>

- e. The Gold Standard for Global Goals “Principles and Requirements” Version 1.2 and GS4GG guidelines;
- f. All information and references relevant to the project activity’s resulting in emission reductions.

The purpose of this Project Activity (PA) is the dissemination of Himalayan Rocket Stoves (HRS) to the residential households and home stays within India (complete KML file of the project location provided by the PP). These HRS stoves serves dual purposed i.e. cooking and space-heating. Thus, reduce the usage fire-wood required for both purposes in the baseline scenario.

Applus+ Certification confirms that the project is implemented in accordance with the GS4GG MR version 05.1. The monitoring plan complies with the applied methodology TPDDTEC version 03.1 and the Gold Standard for Global Goals “Principles and Requirements” version 1.2, and other GS4GG guidelines in accordance of which the monitoring has been carried out. The monitoring system is in place and the emission reductions are calculated without material misstatements.

During the course of this first verification, total 11 findings were raised and these 07 CLs, 04 CARs and 0 FARs. However, there are two FARs raised by GS at the time of project registration. All these findings were addressed satisfactorily by the PP and were closed.

Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in the below stated SDG impacts during the current monitoring period 08/06/2021 to 28/02/2023 (Both days included):

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
13 Climate Action	Emissions Reductions	18,632	tCO ₂ e
7 Affordable and clean Energy	Number of Households (HHs) got access to clean and affordable energy	6,571	No. of HHs
15 Life on Land	Tonnes of firewood saved by project stove as compared to traditional stove	17,557	Tons of wood saved

ASSESSMENT TEAM		
Team Members	Type of Resource ⁴	Organization (for OEs)
Lead Auditor, Technical Expert and Country Expert: Mr. Srikanth Meesa	☐ IR ☒ EI ☐ OE	Applus+ Certification
Technical Reviewer: Mr. Simon Shen	☐ IR ☒ EI ☐ OE	Applus+ Certification

⁴ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

ABBREVIATIONS	
Applus+ LGAI / Applus+	LGAI Technological Center, S.A. (Applus+ Certification)
CAR	Corrective Action Request
VER	Verified Emission Reduction
CL / CR	Clarification Request
EF	Emission Factor
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG	Gold Standard for Global Goals
HRS	Himalayan Rocket Cookstove
IPCC	Intergovernmental Panel on Climate Change
Ley	Leakage Emissions
KPT	Kitchen Performance Test
MP	Monitoring Plan
PA	Project Activity
PE	Project Emissions
PP	Project Proponent
SDG	Sustainable Development Goal(s)
TAC	Gold Standard Technical Advisory Committee
US	Usage Survey
VVB	Validation and Validation Body
VVS	Validation and Validation Standard

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1. INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Swiss Carbon Value Ltd. to perform the first verification of the GS project activity "Himalayan Rocket Stove Project in India" with the ID GS 10797, applying the GS4GG methodology TPDDTEC version 03.1^{/6/} and GS4GG guidelines. Gold Standard projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Gold Standard VERs. The objective of the verification work is to assess the compliance with the requirements GS4GG guidelines and relevant Principles and Requirements. According to this assessment Applus+ Certification shall:

- Ensure that the project activity has been implemented and operated as per the registered GS4GG PDD version 06^{/2/} and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place;
- Ensure that the referred MR and other supporting documents provided are complete, verifiable and in accordance with applicable relevant GS4GG requirements;
- Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology^{/6/}; Evaluate the data recorded and stored as per the applied methodology i.e. TPDDTEC version 03.1^{/6/}.

1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the VVB. The verification is based on the submitted monitoring report^{/1/}, the GS4GG requirements, registered GS PDD, version 06.0, the applied monitoring methodology TPDDTEC version 03.1^{/6/}, relevant decisions, GS4GG guideline and any other information and references relevant to the project Activity's resulting emission reductions. These documents are reviewed against the requirements in the Gold Standard GS4GG requirement i.e. Principles and Requirements, version 1.2, Community Services Activity Requirements, version 1.2 and other GS4GG Validation and Validation Standard version 01.0^{/7/}.

Based on the requirements of the GS4GG guidelines, Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

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

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

1.3 Description of the project activity

Title of PA:	Himalayan Rocket Stove Project in India
Gold Standard ID:	GS ID: 10797
Applied methodology:	Reduced Emissions From Cooking and Heating: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) – Version 03.1.
Monitoring period:	08/06/2021 to 28/02/2023 (including both days)
Project Representative:	Swiss Carbon Value Limited
Location of the project activity:	Himalayan states, the northern states, parts of eastern India and South India

The purpose of this project activity is the dissemination of Himalayan Rocket Stoves to residential households and home stays in the host country India. These HRS stoves serve dual purposes i.e. cooking and space-heating. Thus, reduce the usage fire-wood required for both purposes in the baseline scenario.

The project implementation spans across the territorial boundary of India. Section A.2 of the registered PDD and final version of the MR^{2/} includes the specific details on the geo-coordinates of the location of the project activity as stated below:

Latitude	20°35'37.32"N
Longitude	78°57'46.44"E

The above-mentioned geo co-ordinates of the implemented in the project activity and has been cross verified by the VVB during the site visit and also from the KML file^{12/} provided for the project location by the PP. During the current monitoring period, it was checked from the Usage Survey of the beneficiaries that all the 6,571 were operational.

It is to be noted as per the registered GS PDD, the energy savings of approximately 318 GWh are reported which is above the threshold of 180 GWh as prescribed in the para 9.2.2 of the GS4GG GHG Emissions Reduction & Sequestration Product Requirements v.2.4. Thus, the project was a large-scale project. However, this is a small-scale project in actual based on the energy saving per year are less than 180 GWh during the current monitoring period. PP has included its calculations in the ER sheet and the same was reviewed and found valid and accurate.

Table 1: Technical characteristics of the HRS^{17/2/}:

Specifications of various models of HRS devices			
Item No	Model	Dimension (mm)	Specifications
1	Eco-1	H: 500; L :840; B: 450	Stove made of high-quality SS 304
2	Eco-2	H: 625; L :840; B: 450	
3	Eco-3	H: 825; L :840; B: 450	

4	Eco-Mini	H: 460; L :600; B: 330	
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As per the registered PDD, ECO1, Eco2 and Eco3 have a lifespan of nearly 20 years whereas, Eco mini has a minimum lifespan of 8 to 10 years at least. The stoves have an average thermal power of 37 kW_{th} per unit^{/2/}. Further, combustion efficiency of these stoves is reported as 49%^{/2/}.

As per the registered GS PDD, the project activity is estimated to generate 1,068,559 tCO_{2e} of emission reductions during the first crediting period i.e. 05/07/2019 to 04/07/2024 and the annual average estimated emission reductions are 213,712 tCO_{2e}. As per the GS guidelines, the project could be renewed twice.

It is to be noted the current monitoring period is the first monitoring period and duration is 05/07/2019 to 28/02/2023. However, as per the approved deviation request GS772^{5/25/} obtained during post-registration of the project, the monitoring period start date has been changed to 08/06/2021, which is two years prior to the start of the first verification site visit date i.e. 08/06/2023. The achieved emission reductions during the current monitoring period are calculated as 18,632 tCO_{2e}.

The following technical details have been confirmed by VVB by assessing the provided manufacturer's specifications^{/10/}, stove actual photographs, and Kitchen Performance test (KPT) results^{/12/}. Also, it was confirmed by the VVB during the on-site inspection. All the information is correctly mentioned under the section A.3 of the latest version of the MR, various Surveys (monitoring, Kitchen Tests and leakage etc.)^{/3/} were conducted on an annual basis by the trained team of the PP to ensure stove usage and also to evaluate the performance of the associated SDGs as well. Survey results of the same has been cross checked by the VVB, and was found to be in line with the information provided in the Survey forms, hence acceptable to VVB.

For the current monitoring period, 6,571 HRS devices (were distributed as verified from the project beneficiary database and submitted end-user Agreement duly signed between the beneficiary and the PP^{/9/}. The complete details of the distributed stoves in this PA are provided in the 'HRS database'^{/17/} provided by the PP.

2. METHODOLOGY

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

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

⁵ https://globalgoals.goldstandard.org/standards/DEV_772-Deviation-Request.pdf

- Means of verifying reported data; and
- Compilation of the relevant information in the monitoring report.

Applus+ Certification based on the rule-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the 2nd stage, Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report^{1/} for the period in question. This involved interviewing PP and its representatives during the on-site inspection and a desk review of the Monitoring Report^{1/}. This Verification Report describes the findings of this assessment. Complete findings table has been included under the appendix 01 of this report.

2.1 Appointment of the assessment team

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

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

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

- Lead Auditor (LA).
- Auditor (A)
- Financial Expert (FE)
- Local Support (LS)
- Technical Reviewer (TR).

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

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Srikanth Meesa	Lead Auditor, Technical Expert	Yes	Yes	NA	Yes
Mr. Simon Shen	Technical Reviewer	Yes	Yes	NA	NA

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

2.2 Document review

The Monitoring Report version 01.0 was initially submitted to VVB before the verification activity started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- Verify the completeness of the data and the information presented in the initial & final versions of MR^{/1/};
- Check the compliance of the MR with respect to the monitoring plan depicted in the registered GS PDD ^{/2/} and verify that the applied methodology was carried out.
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.
- Please check list of Reference in the end of this report for detail of the documents checked.

2.3 On site assessment and follow up interviews

The objective of the on-site inspection was to:

- Confirm the implementation and operation of the project.
- Review the data flow for generating, aggregating and reporting the monitoring parameters.
- Confirm the correct implementation of procedures for operations and data collection.
- Cross-check the information provided in the MR documentation with other sources.
- Check the monitoring equipment against the requirements of the registered GS PDD and the approved methodology^{/6/}.
- Review the calculations and assumptions used to obtain the GHG data and ER.
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.
- Confirm the SDG goals/ Sustainable monitoring parameter & the safeguarding principles as per the PDD^{/2/}.

List of PP personnel interviewed during on-site inspection conducted from 08/06/2023 to 13/06/2023 for Shimla, Manali and Leh& Ladakh sites, 13/07/2023 to 15/07/2023 for Darjeeling site are stated below:

Interviewed Personnel	Functions	Organization	Subject
Mr. Neetan Verma	Sales Manager	Himalayan Rocket Stove	Implementation of the project, any design changes post-registration of the
Mr. Tanzin Rigzin	Director, HRS	Himalayan Rocket Stove	

Mr. Sohail Kaistha	Service Team Leader	Himalayan Rocket Stove	project, monitoring of the ex-post parameters, monitoring data collection through various surveys, training of the survey team and their competence. QA/QC of the monitored data and SDG impacts and it's archiving
Chozang Narpial	Sale Manager, Leh Ladakh	Himalayan Rocket Stove	Conduction of the surveys i.e usage survey, baseline and project KPT, monitoring survey and the leakage surveys, trainings attended. Data collection, recording and data transfer.
Urgain Norbu	Distributor, Leh Ladakh	Himalayan Rocket Stove	
Amit jaita	Distributor, Shimla& Manali	Himalayan Rocket Stove	
Sanjay Bhoita	Retailer, Shimla& Manali	Himalayan Rocket Stove	
Vikash Yadav	Regional Senior Manager	South Pole	Completion of the TR, monitoring parameters description and monitoring system, calculation of emission reductions, sample section to conduct the surveys and it's representativeness as per the applied methodology and relevant GS requirements
Ms. Manika Mongia	Associate Manager	South Pole	

Household samples checked during on-site inspection:

Verification team has applied acceptance sampling in accordance with para 39, Table 2 Sample size and acceptance number based on AQL, UQL, and producer and consumer risks" of standard "Sampling and surveys for CDM project activity and programme of activities" version 09.0. The verification team determined the minimum sample size (n) as 11 and acceptance number (c) as 0. The sample size used to verify the reported values for the monitored parameters which are determined through sample survey by PP. The VVB interviewed the HRS users and filled the VVB survey form to check the acceptability of the data for each record in the PP's sample records. Refer details in Implementation of sampling plan in Section 3.4 of this report.

After receiving the consent from the stakeholders to include their names in the report, the list of the interviewed persons during the on-site inspection by the VVB for project sites located at Shimla, Manali, Leh & Ladakh and Darjeeling are mentioned below respectively:

Sr.No	Stove Serial Number	Name	Gender	Key points discussed:
1.	Eco 1-752	Sandeep Thakur	M	1. Are you the main user of the old cookstove? How many people are there in your household? 2. What type and number of stoves did you use? traditional Bukhari stove? 3. what kind of fuel do you use for the stove? Charcoal, firewood or others? if others, what sort of fuel is it. 4. What was the baseline device used by the beneficiary? 5. How many numbers of meals are cooked in a day? 6. Did an investigator come to your home to measure the fuel consumption for the HRS? If yes, how long is the measurement period. 7. Do you think the HRS stove will generate smokes and cause respiratory or other health issues? 8. Are there any grievances with respect to the functioning of the HRS units
2.	Eco 1-190	Deepak Chandar	M	
3.	Eco 2-7695	Sanjay Austa	M	
4.	Eco 3-428	Akash, Summit Adventures	M	
5.	Eco1-2804	Vinod B	M	
6.	Eco 1-292	Mukesh Thakur	M	
7.	Eco Mini-643	Jigmet G	M	
8.	Eco Mini-248	Nawang Thinles	M	
9.	Eco Mini-211	Norbu Tolden	M	
10.	Eco Mini- 5679	Jagdish. G	M	
11.	Eco Mini- 5979	Avhishek Pradhan	M	
12.	Eco1-927	Utsov Pradhan	M	

The objective of the on-site assessment is to:

- Confirm the implementation and operation of the project;
- Review the data flow for generating, aggregating and reporting the monitoring parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- Check the monitoring equipment against the monitoring plan provided in the registered GS PDD (version 06, dated 01/02/2023) and the approved GS4GG methodology^{/6/}, etc.;
- Review the calculations and assumptions used to obtain the GHG data and ER;

- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters;
- Confirm the SDG goals/ Sustainable monitoring parameter & Safeguarding principles as per the registered GS PDD^{/2/};
- To understand grievance (if any) from the end-users during the monitoring period.

2.4 Quality of evidences

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR Version 05.1^{/1/}. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan in accordance with the applied methodology^{/6/}.

2.5 Reporting of findings

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

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

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

The assessment team shall raise a Clarification Request (CL/CR) if information is insufficient or not clear enough to determine whether the applicable GS4GG requirements have been met.

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

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

Total Numbers of CAR(s): 04, CL(s): 07, FAR(s): 00 from desk review. Please refer Appendix 1 of this report for further details.

2.6 Internal Quality Control

As final step of a validation the final documentation including the validation report and the protocol have to undergo an internal quality control by the technical review team. Once approved by the Technical Review Team, each report has to be finally approved by the authorized personnel of the VVB (either the Technical Manager or other authority in case the Technical Manager is part of the Validation and/or Verification-Certification (VVC) Team for the project).

After confirmation of the reported SDG impacts in the latest MR and ER sheet, the verification opinion and relevant documents are submitted to the GS Registry.

3. VERIFICATION FINDINGS

3.1 FARs from Validation / Previous Verification

Since this is first verification for the PA, there is no FAR raised during Validation/Previous Verification. 02 FAR's were raised during the GS4GG final review round prior to the registration of this project. These 2 FARs along with the PP's response and VVB assessment is provided in Appendix 1 of this report.

3.2 Project Implementation in accordance with the registered project Activity

The current GS project activity is implemented according to the description presented in the registered PDD version 06. Verification team confirms, through the on-site inspection and interview with end-users during households visit that all physical features of the Project activity (PA) including data collecting systems and storage have been implemented in accordance with the GS4GG PDD, version 06 and were found to be consistent.

The purpose of this project activity is the dissemination of Himalayan Rocket Stoves to residential households and home stays in the host country India. These HRS stoves serves dual purposed i.e. cooking and space-heating. Thus, reduce the usage fire-wood required for both purposes in the baseline scenario.

The project activity has been implemented in line with the registered GS PDD, dissemination of non-renewable biomass-based HRS in the hill regions such as Himalayan states, the northern states, parts of eastern India and South India. During the verification, it was noticed the households were using the bukhari stoves for space heating. PP has distributed 6,571 HRs during the current monitoring period in various states of India. The information is listed in the tables below:

Plant Count					
Vintage	Eco Mini	Eco 1	Eco 2	Eco 3	Total
01-01-2021 to 31-12-2021	236	776	297	44	1353
01-01-2022 to 31-12-2022	2619	6875	144	27	3477

01-01-2023 to 28-02-2023	1717	21	2	1	1741
Total	4572	1484	44	72	6,571

Statewise- Plant Count until the end of the current monitoring period					
State	Eco mini	Eco 1	Eco 2	Eco 3	Total
HP	1597	988	170	22	2777
Ladakh	1563	317	190	0	2070
Uttarakhand	16	43	23	14	96
Jammu & Kashmir	13	49	2	15	99
North-East	1383	87	38	21	1529
Total	457	1484	443	72	6,571

Verification team has noticed these stoves are used in the winter season i.e October/November to February/March which is approximately six months. It was observed the households may also use the stoves in the rainy season and when it's cold which is usually August or September months. On a conservative basis, PP has considered only six months as the operational duration of these stoves. Based on the on-site interviews and publicly available data on climatic conditions of the beneficiary locations, assessment team concludes the 6 months operational period is reasonable and acceptable.

During the on-site visit, it was observed all the interviewed households were positive about the HRS and its capacity to keep the space heated for longer hours compared to the baseline Bukhari stoves. The total number of cook-stoves credited till the end of this monitoring period were cross verified against the usage survey data and the corresponding survey results as submitted by PP and were found to be correct.

In addition to the above, verification team has reviewed other registries such as VERRA/CDM/GCC⁶⁷⁸ etc. whether there is any double counting of the achieved emission reductions. The search revealed that there is no double counting of this project. Further, there are no national level policies⁹ in the host country that would consider this project category in the national carbon market.

It is to be noted as per the registered GS PDD, the project is a large-scale project. However, it was noticed this is a small-scale project in actual based on the energy saving per year. PP has included it's demonstration in the ER sheet and the same was reviewed and found valid and accurate.

PP has provided the annual report relevant to the current monitoring period and also uploaded the latest annual report to the GS registry^{22/}.

⁶ <https://registry.terra.org/app/search/VCS/Registered>

⁷ https://projects.globalcarboncouncil.com/pages/approved_projects

⁸ <https://cdm.unfccc.int/Projects/projsearch.html>

⁹ <https://beeindia.gov.in/en/programmes/carbon-market>

Verification team confirms that there are no changes in the monitoring plan from the registered PDD version 06 dated 01/02/2023. The Monitoring parameter along with their justification related to SDGs has been mentioned under section D.2 of the MR version 05.1.

Therefore, the VVB confirms that monitoring procedure of GHG data is found to be sufficient and in accordance with the procedures stipulated under the monitoring plan.

Also, in VVB's opinion;

- a) The implementation and operation of the implemented PA is in compliance with the description in the PDD version 06^{/2/}.
- b) There is a deviation^{/25/} in monitoring period which was approved by GS during the current monitoring period.
- c) The actual emission reductions for the current monitoring period are 18,632 tCO₂e which are lower than the estimated ERs 770,584 tCO₂e for the comparable period.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

The VVB is able to confirm that the monitoring plan contained in the registered PDD is in accordance with the applied GS4GG approved methodology REDUCED EMISSIONS FROM COOKING AND HEATING: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) Version 03.1.

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

The monitoring is in accordance with the applied methodology and has been carried out in accordance with the monitoring plan contained in the registered PDD, detailed elaboration regarding each parameter has been elaborated in the further sections of this report.

Therefore, VVB is of the opinion that the monitoring plan mentioned is in line with the applied methodology TPDDTEC version 03.1^{/7/}. The monitoring mechanism is also in line with the methodology and is effective & reliable. It is to be noted, there is a deviation^{/25/} in monitoring period which was approved by GS during the current monitoring period.

3.4 Completeness of Monitoring

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. During the course of verification, all relevant monitoring parameters have been verified with regard to the appropriateness of the applied measurement/ determination method and applied QA/QC procedures. It is confirmed that the monitoring parameters have been

determined without material misstatements. The detailed description on the materiality is provided below:

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Wrong data collection/misinterpretation of household situation	Low	It's not complicated monitoring process. Appropriate trainings are conducted for the monitoring personnel.	By means of site visit check of actual situation to sample number of households.
2.	Transfer of data from sampling survey sheet to monitoring database	Low	Possible human error during transfer of data to monitoring database	Thorough cross-check required on the transfer of data from survey sheets to the monitoring database sheet
3.	Error in transferring the recorded data to ER sheet	Low	Since the process of transferring data from monitoring database to ER calculations sheets is done mostly through copy & paste, there is a very less chance of discrepancies.	Consistency between monitoring database and ER sheet to be checked.
4.	Error in ER calculations	High	The sample size was large, hence increasing the chances of error in ER	The ER calculations were checked for accuracy

The prescribed thresholds for materiality, as per para 9.6.3 of the "GS validation and verification standard, version 02"/8/. Prescribed range of ERs/annum	500,000+	300,000+ to 500,000	300,000	MSC PAs
Prescribed Threshold	0.5%	1.0%	2.0%	10.0%

The identified/selected materiality threshold for the project activity under current monitoring period is 2% as project activity is large scale project activity lower than 300,000 ERs/annum. Emission reductions as per the latest version of the MR^{1/} 18,632 tCO₂e

Identified Threshold considering the registered project is a large-scale project^{2/} 2%

The impact of errors observed during verification for each monitoring parameter on the emission reduction calculation is provided below:

Parameter	Verification approach	Error identified	Corrected	Within Threshold
Avoidance of double counting or double claiming among project technology end users	Sample survey data check & acceptance survey	No error identified	NA	Yes
Np,y	Sample survey data check & acceptance survey	No error identified	NA	Yes
Pp,y	Sample survey data check & acceptance survey	No error identified	NA	Yes
Up,y	Sample survey data check & acceptance survey	No error identified	NA	Yes

The complete dataset for the project activity was checked and it can be confirmed that the values are consistent with their sources. The assessment team confirms that the reported emission reductions are free from material errors, omissions or misstatements.

Verification team reviewed the actual implementation of monitoring during the on-site inspection, which was also cross checked from the relevant supporting document review and compared it against the requirements of the monitoring plan in the registered GS PDD. Further, verification team assessed the monitoring techniques and each monitoring value in the monitoring report; and provided a short summary on the verification of every parameter listed in the monitoring plan and used for calculation of emission reductions.

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

S. No.	Ex-ante Parameter and unit	Description	Values Applied	VVB Assessment
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1.	$fNR_{b,y}$: Percentage	Fractional non-renewability status of woody biomass fuel during year y, in case the baseline fuel is biomass or charcoal	90	It is to be noted these are ex-ante parameters and the values were assessed by the validation and was approved by GS. Hence, the applied value is acceptable.
2.	EF_{p,f,CO_2} : CO ₂ emission factor arising from use of fuels in project scenario	CO ₂ emission factor arising from use of fuels in project scenario	112 tCO ₂ /TJ	
3.	$EF_{b,f,nonCO_2}$: tCO ₂ /TJ	Non-CO ₂ emission factor arising from use of fuels in baseline scenario	0	
4.	$NCV_{b,fuel}$: TJ/ton	Net calorific value of the fuels used in the baseline	0.0156 TJ/ton	

The values of ex-ante fixed parameters have been verified from the registered PDD^{/2/}. The VVB confirms that the values used/applied as per the given sources are correct and justified. Also, the ex-ante values have been correctly applied in the calculation of emission reductions.

During the verification all monitoring parameters listed in Section D of MR were compared with monitoring parameters and the monitoring plan of the registered PDD and have been verified with regard to the:

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

b. Data and parameters monitored

Ex-post Parameter	Monitoring frequency	Values Applied					VVB Assessment
Quantity of fuel that is consumed in baseline scenario (stove serving dual purpose) during	Updated every two years, or more frequently. However, annual frequency is	Average (Mean) Wood Consumption (kg/day/HH) for all the baseline Bukhari stove models year wise				kg/day	This parameter is found monitored through annual baseline KPTs as presented in the MR, though the registered GS PDD and applied methodology stated that it shall be monitored every two years or more frequently. Verification team has reviewed the provided baseline KPT data spread sheet and the KPT filled
		Equivalent Bukhari Stove HH	2021	2022	2023	Wood Consumption	
		Eco Mini	40.9	42.3	43.8	39.88	
		Eco 1	41	42.5	43.6	41.00	

year P _{b,y}	maintained by the PP during the current monitoring period	<table><tr><td>Eco 2</td><td>56.2</td><td>60.5</td><td>60.4</td><td>56.20</td></tr><tr><td>Eco 3</td><td>69.2</td><td>76.3</td><td>77.8</td><td>69.20</td></tr></table>	Eco 2	56.2	60.5	60.4	56.20	Eco 3	69.2	76.3	77.8	69.20	forms. Based on the review, it was assessed the reported data is consistent, reliable and acceptable. Further, assessment team has noticed a trained and competent team was employed by the PP to perform these surveys. Information and assessment on the selected sample is provided below this table. Further, reported data in the MR was also found consistent in the ER sheet. Hence, assessment team concludes the reported quantity of fuel consumed baseline scenario data is reliable, valid and acceptable.																				
Eco 2	56.2	60.5	60.4	56.20																													
Eco 3	69.2	76.3	77.8	69.20																													
Quantity of fuel that is consumed in project scenario during year P _{p,y}	Updated every two years, or more frequently	<table><tr><th colspan="4">Average (Mean) Wood Consumption (kg/day) for all the HRS stove models year wise</th><th>kg/day/HH</th></tr><tr><th>Project Stove Model</th><th>2021</th><th>2022</th><th>2023</th><th>Wood Consumption</th></tr><tr><td>Eco Mini</td><td>21.05</td><td>21.10</td><td>21.10</td><td>21.66</td></tr><tr><td>Eco 1</td><td>21.20</td><td>21.10</td><td>21.20</td><td>22.21</td></tr><tr><td>Eco 2</td><td>29.10</td><td>29.10</td><td>30.00</td><td>30.00</td></tr><tr><td>Eco 3</td><td>35.90</td><td>36.20</td><td>31.60</td><td>37.19</td></tr></table>	Average (Mean) Wood Consumption (kg/day) for all the HRS stove models year wise				kg/day/HH	Project Stove Model	2021	2022	2023	Wood Consumption	Eco Mini	21.05	21.10	21.10	21.66	Eco 1	21.20	21.10	21.20	22.21	Eco 2	29.10	29.10	30.00	30.00	Eco 3	35.90	36.20	31.60	37.19	This parameter is found monitored through annual project KPTs as presented in the MR, though the registered GS PDD and applied methodology stated that the it shall be monitored every two years or more frequently. Verification team has reviewed the provided project KPT data spread sheet and the KPT filled forms. Based on the review, it was assessed the reported data is consistent, reliable and acceptable. Further, assessment team has noticed a trained and competent team was employed by the PP to perform these surveys. Information and assessment on the selected sample is provided below this table. Further, reported data in the MR was also found consistent in the ER sheet. Hence, assessment team concludes the reported quantity of fuel consumed baseline scenario data is reliable, valid and acceptable.
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Eco 3	35.90	36.20	31.60	37.19																													

U _{p,y} Usage rate in project scenario p during year y	At least annually	75%	This parameter describes the Weighted average usage rate based on each age in project scenario p during year y. This has been assessed by VVB in accordance to the usage rate Guidelines available at the following weblink : Cookstove Usage Rate Guidelines – Gold Standard for the Global Goals. PP has carried out the annual surveys as per the applied methodology and the registered GS PDD. It could be confirmed by the VVB that weighted average percent of users actively using the project technology, where the weighting is by the quantity of project technologies of each age cohort being credited in a given project scenario has been correctly calculated and the value applied is 75% claimable usage rate as mentioned in the “Requirements and Guidelines: Usage Rate Monitoring”. Therefore, the reported usage rate is found reliable, conservative and acceptable.																																				
N _{p,y} Project technology days :	Calculated annually	<table><tr><th colspan="6">N_{p,y}</th></tr><tr><th>Vintage</th><th>Eco Mini</th><th>Eco 1</th><th>Eco 2</th><th>Eco 3</th><th>Total</th></tr><tr><td>08-06-2021 to 31-12-2021</td><td>9,801</td><td>41,069776</td><td>14,343</td><td>2,253</td><td>67,466</td></tr><tr><td>01-01-2022 to 31-12-2022</td><td>245700</td><td>1836755</td><td>66324</td><td>10,447</td><td>506,146</td></tr><tr><td>01-01-2023 to 28-02-2023</td><td>204030</td><td>87,256</td><td>26,104</td><td>4,184</td><td>321,574</td></tr><tr><td>Total</td><td>459,531</td><td>312,000</td><td>106,771</td><td>16,884</td><td>895,186</td></tr></table>	N _{p,y}						Vintage	Eco Mini	Eco 1	Eco 2	Eco 3	Total	08-06-2021 to 31-12-2021	9,801	41,069776	14,343	2,253	67,466	01-01-2022 to 31-12-2022	245700	1836755	66324	10,447	506,146	01-01-2023 to 28-02-2023	204030	87,256	26,104	4,184	321,574	Total	459,531	312,000	106,771	16,884	895,186	This parameter describes the Number of project technology-days included in the project database for baseline b/project p pair in year y. This has been calculated as the sum of the number of project technology units’ times the calendar days during the year y that they were present at the end user locations. PP has carried out the internal survey annually to
N _{p,y}																																							
Vintage	Eco Mini	Eco 1	Eco 2	Eco 3	Total																																		
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			obtain this data as per the registered GS PDD. It was noticed a trained and competent team is assigned to conduct the survey in order to ensure the high quality of the obtained data. Based on the site visit interviews and the review of the reported data, assessment team is convinced that the reported data is reliable and acceptable.																																					
LE _{p,y} Leakage in project scenario p during year y	Biennial or frequently. However, annual frequency is followed throughout the monitoring period.	5%	This parameter describes the Leakage in project scenario p during year y. PP has carried out the internal survey annually to obtain this data as per the registered GS PDD. As per the survey, it was found the baseline stoves were disposed off. It was noticed a trained and competent team is assigned to conduct the survey in order to ensure the high quality of the obtained data. During the site visit, it was observed the baseline devices were disposed off and no longer in use. Thus, based on the site visit interviews and the review of the reported data, assessment team is convinced that the reported data is reliable and acceptable.																																					
SDG15-Biomass Saved	Annual y	<table> <tr> <td></td> <th colspan="5">Wood Saving* (tonnes)</th> </tr> <tr> <th>Vintage</th> <th>Eco Mini</th> <th>Eco 1</th> <th>Eco 2</th> <th>Eco 3</th> <th>Total</th> </tr> <tr> <td>08-06-2021 to 31-12-2021</td> <td>177</td> <td>77</td> <td>375</td> <td>71</td> <td>1,393</td> </tr> <tr> <td>01-01-2022 to 31-12-2022</td> <td>4,474</td> <td>3,45</td> <td>1,737</td> <td>333</td> <td>9,994</td> </tr> <tr> <td>01-01-2023 to 28-02-2023</td> <td>3,716</td> <td>1,63</td> <td>683</td> <td>13</td> <td>6,170</td> </tr> <tr> <td>Total</td> <td>8,367</td> <td>5,85</td> <td>2,795</td> <td>53</td> <td>17,557</td> </tr> </table>			Wood Saving* (tonnes)					Vintage	Eco Mini	Eco 1	Eco 2	Eco 3	Total	08-06-2021 to 31-12-2021	177	77	375	71	1,393	01-01-2022 to 31-12-2022	4,474	3,45	1,737	333	9,994	01-01-2023 to 28-02-2023	3,716	1,63	683	13	6,170	Total	8,367	5,85	2,795	53	17,557	This parameter describes the annual biomass saved due to the project in year y. PP has carried out the KPT annually to obtain this data as per the registered GS PDD and as per the guidance provided in annex 4 of the applied methodology. It was noticed a trained and competent team is assigned to conduct
	Wood Saving* (tonnes)																																							
Vintage	Eco Mini	Eco 1	Eco 2	Eco 3	Total																																			
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			the survey in order to ensure the high quality of the obtained data. Thus, based on the site visit interviews and the review of the reported data, assessment team is convinced that the reported data is reliable and acceptable.																																				
SDG 7: Access to affordable and clean energy services: Number of Himalayan rocket stoves operational under the project activity	Annually	<table><tr><td></td><td colspan="5">HRS Stove Count</td></tr><tr><td>Vintage wise</td><td>Eco Mini</td><td>Eco 1</td><td>Eco 2</td><td>Eco 3</td><td>Total</td></tr><tr><td>08-06-2021 to 31-12-2021</td><td>236</td><td>776</td><td>297</td><td>44</td><td>1353</td></tr><tr><td>01-01-2022 to 31-12-2022</td><td>2619</td><td>6875</td><td>144</td><td>27</td><td>3477</td></tr><tr><td>01-01-2023 to 28-02-2023</td><td>1717</td><td>21</td><td>2</td><td>1</td><td>1741</td></tr><tr><td>Total</td><td>4572</td><td>1484</td><td>443</td><td>72</td><td>6571</td></tr></table>		HRS Stove Count					Vintage wise	Eco Mini	Eco 1	Eco 2	Eco 3	Total	08-06-2021 to 31-12-2021	236	776	297	44	1353	01-01-2022 to 31-12-2022	2619	6875	144	27	3477	01-01-2023 to 28-02-2023	1717	21	2	1	1741	Total	4572	1484	443	72	6571	This data is obtained through annual surveys as stated in the MR and is consistent with the registered GS PDD and applied methodology. PP has applied the sampling standard to perform QA/QC of the number of operational HRS during the current monitoring period. During the on-site visit, assessment team has selected sample to check and confirm whether the selected sample HRS were operational. All the selected sample of 12 HRS were found operational. Thus, verification team concludes that all the reported number of HRS stoves data is found consistent, reliable and accurate.
	HRS Stove Count																																						
Vintage wise	Eco Mini	Eco 1	Eco 2	Eco 3	Total																																		
08-06-2021 to 31-12-2021	236	776	297	44	1353																																		
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The VVB confirms that;

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

In summary, the VVB confirms that all the ex-post parameters are monitored in accordance with the monitoring plan as checked during the on-site inspection and applied GS4GG methodology.

Therefore, in VVB's opinion, the adequacy and compliance of the monitoring plan in the Monitoring report was found as per the requirements laid by the monitoring methodology and the registered PDD^{1/}. The information flow (from data generation, aggregation, to recording, calculation and reporting) is already included under respective parameter above.

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

c. Implementation of Sampling Plan

Due to the extensive distribution of HRS as part of this GS project activity, monitoring each unit is not economically feasible. Therefore, a simple random sampling approach has been implemented as part of an instance-wide Sampling Plan, aligning with the guidelines outlined in the document "Sampling and surveys for CDM project activities and programme of activities," version 04.0.

Applus+ verification team carried out the random sampling from the PP's sample records and checked (using its professional judgment) the acceptability of the data for each record in the PP's sample records. The VVB has determined acceptance sample size based on the "Table 2. Survey and data collection methods and preference for use" of standard "Sampling and surveys for CDM project activities and programmes of activities" version 09.0.

The primary objective of the Sampling Plan is to achieve an unbiased and reliable estimate of the proportion or mean value of key variables throughout the crediting period. According to the Standard for "Sampling and Surveys for CDM Project Activities and Programme of Activities," paragraph 11 stipulates the adoption of a 90/10 confidence/precision level for small-scale projects and 95/10 for large-scale projects.

However, as per the registered GS PDD, 90/10 confidence/precision level is applied. Further, the project scale was also found small during the current monitoring period.

As per para 28, Standard: Sampling and surveys for CDM project activities and programmes of activities version 9.0, VVB has applied acceptance sampling, to review the data collection and appropriateness of monitoring plan.

1

As per para 11 of "Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 9.0," *A DOE may select a different sample size than the one indicated in paragraph 32, either by choosing a different value for the consumer risk and producer risk (e.g. 20% for the consumer risk) when applying acceptance sampling or by using another approach, if any of the following conditions apply:*

2

a) The estimated volume of annual emission reductions of the project activity or the PoA being verified is equal to or less than 100,000 tCO₂e.

b) The security conditions in the project region prevents inspection of many samples (e.g., conflict zones); or

c) The project activity or the PoA is 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.

Sample size calculation:

To estimate the sample size, the following equation is used¹⁰:

$$n \geq \frac{1.645^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 p(1-p)}$$

n = Sample Size,
 N = Total number of Households,
 P = Our expected proportion,
 1.645 = Represents the 90% confidence required and
 0.1 = Represents the 10% relative precision.

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

Surveys:

The surveys were undertaken during (January- February) 2021, (January- February) 2022, and March 2023.

The field surveys were conducted randomly using the standard questionnaire. The "Random" function of MS Excel was used to generate random numbers for each stove serial number from the database. It is to be noted, PP has considered the minimum sample of 30 for KPTs and the same has been transparently presented in the MR and ER sheet. The numbers generated were then sorted from lowest to highest and the sequence of first 360 households was used to conduct the survey in the field. Selected households for this GS project "Himalayan Rocket Stove Project in India". Also, PP has described the sampling method in Section D.4 of the monitoring report. VVB confirms that the size of sample and number of surveys are consistent with the monitoring plan and the Standard.

VVB Sampling:

As the PP has applied project sampling approach and same samples for all the monitoring parameters, hence the VVB applied the acceptance sampling in accordance with the paragraph 28-33 of the "Standard: Sampling and surveys for CDM project activities and programme of

¹⁰ [Meth_GC48 \(ver04.0\).pdf \(unfccc.int\)](#)

activities, version 09". The verification team carried out the random sampling from the PP's sample records and checked (using its professional judgment) the acceptability of the data for each record in the PP's sample records. The VVB has determined acceptance sample size based on the "Table 2. Sample size and acceptance number based on AQL, UQL, and producer and consumer risks" of standard "Sampling and surveys for CDM project activities and programme of activities" version 09.0.

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

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

1. Acceptable quality level (AQL) – 0.5%
2. Unacceptable Quality Level (UQL) - 20%
3. Producer risk -10%
4. Consumer risk -10%

VVB has determined acceptance sample size for all the sample survey parameters in accordance with para 39, Table 2 Sample size and acceptance number based on AQL, UQL, and producer and consumer risks" of standard "Sampling and surveys for CDM project activity and programme of activities" version 09.0. From the above factors, the verification team determined the minimum sample size (n) as 11 and acceptance number (c) as 0. The sample size used to verify the reported values for the monitored parameters which are determined through sample survey by PP. The VVB has interviewed the HRS users and filled the VVB survey form to check the acceptability of the data for each record in the PP's sample records. The actual number of sample size where the acceptance survey was done given below:

Using acceptance sampling approach, verification team checked the PP's samples results (reported in the Monitoring forms & the results of the same) along with the following evidences:

- Physical site visit/ inspection/interviews with the concerned HRS users.
- PP household project database.
- Usage and leakage percentage
- Biomass saved including the number of days of the device was used by the household in year

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

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

Thus, in VVB's opinion, it could be concluded that objective evidence collection, data generation and recording analysis also considered the views obtained in these interviews and were found to be satisfactory.

d. Compliance with the calibration frequency requirements for measuring instruments

Not Applicable as there are no measuring instruments mentioned in the registered GS PDD.

3.5 SDG Outcomes Monitoring

For Contributions to Sustainable Development

The verification team checked the sustainable development indicator parameters during the on-site inspection.

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

As per the sustainability monitoring plan as reflected in the submitted latest version of MR^{1/}, VVB has evaluated all sustainable development indicators which are detailed below:

SDG	SDG Impact	Baseline estimate	Project estimate	Leakage estimate	Net benefit
13	Climate Action: (tCO ₂ e) Reduction in GHGs emissions	45,148	24,429	2,087	18,632
7	SDG 7: Affordable and Clean energy (no of HRS Stoves)	0	6,571	0	6,571
15	SDG 15: Life on Land (Tonnes of wood saved)	38,279	20,722		17,557

Comparison of actual value of outcomes with estimates in the registered PDD:

SDG's	Values estimated in ex ante calculation of registered PDD for this monitoring period	Actual values achieved during this monitoring period
SDG 13: Climate Action: (tCO ₂ e) Reduction in GHGs emissions	770,584	18,632
SDG 7: Affordable and Clean energy (no of HRS Stoves)	99,950	6,571
SDG 15: Life on Land (Tonnes of wood saved)	748,168	17,557

The adequacy and compliance of the monitoring plan in the Monitoring report was found as per the requirements laid by the registered GS PDD^{/2/}. The information flow (from data generation, aggregation, to recording, calculation and reporting) is already included under respective parameter above. The VVB has verified all the relevant data and corresponding supporting evidence as per the required monitoring frequency and found to be correct and appropriate meeting the requirements of the applied GS4GG methodology^{/6/} and registered GS PDD.

Based on the document review and the verification site visit, assessment team confirms that there was no legal contest and dispute related to the project during the current monitoring period. As a part of continuous feedback from stakeholders, a continuous grievance book^{/15/18/} has been maintained by the PP, wherein the stakeholders can register their comments or suggestions/questions using the book available within the PP's office. Staff shall process the information and take further actions wherever needed. Further telephone numbers are stamped on receipt forms so that stove users can directly contact over telephonic call with project personnel. PP has provided information on the comments received through service calls and how those were resolved in Annex 2 of the revised MR^{/1/}.

VVB confirmed during on-site inspection and checked against the grievance book maintained for the current monitoring period, no comments/feedbacks were received from the local stakeholders except for regular maintenance issues.

Therefore, it is Applus+ Certification's opinion that the monitoring plan is successfully complied with the one mentioned in the latest version of MR^{/1/} and as far as SDG monitoring is concerned, same is also in line with the requirement of the GS4GG guidelines^{/7/}.

3.6 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

As a result of verification of the ER calculation, the VVB confirms that all the parameters required for the determination of the emission reductions have been included in the initial Monitoring report Version 1.0^{/1/} & the final Monitoring report Version 4.0^{/1/} and corresponding ER calculation spreadsheets^{/4/} are consistent with the applied GS4GG methodology TPDDTEC, version 03.1^{/6/} and the monitoring plan contained in the registered PDD^{/2/}.

After cross-verifying the reported figures with the raw data sources, it could be confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the latest version of the Monitoring Report Version 4^{1/} and corresponding ER calculation spreadsheet^{4/}.

In accordance with the para 3.10.4 of the applied GS4GG methodology, "When the baseline fuel and the project fuel are the same, the GHG emissions reduction achieved by the project activity in year y shall be calculated as follows:

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

Equation 1

Where,

$\sum_{b,p}$	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)
$EF_{b, fuel, CO2}$	CO ₂ emission factor of the fuel that is substituted or reduced. 112 tCO ₂ /TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{b, fuel, nonCO2}$	Non-CO ₂ emission factor of the fuel that is reduced
$LE_{p,y}$	Leakage for project scenario p in year y (tCO ₂ e/yr)

Further,

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

$P_{b,y}$ is the baseline fuel consumption defined by the KPTs across the project boundary.

Data Ex-Post (for current monitoring period)	Unit	Value	Source

ER_y	tCO ₂ e/yr	18,632	Calculated as in Ex-Post calculation Sheet
$N_{b,p,y}$	days	Refer 3.4 (b) above	Calculated as in Ex-Post ER calculation Sheet
$U_{p,y}$	Percentage	75	Calculated as per Usage Survey in line with GS4GG Requirements and Guidelines: Usage Rate Monitoring
$P_{p,b,y}$	kg/household-day	Refer 3.4 (b) above	Calculated as in Ex-Post ER calculation Sheet
$NCV_{b,fuel}$	TJ/mass or volume units	0.0156	Default value from the applied GS4GG methodology
$f_{NRB,b,y}$	Fraction	0.90	Default value from CDM Tool 30
EF_{b,f,CO_2}	tCO ₂ /TJ	112	Default value from the applied GS4GG methodology
$EF_{b,f,nonCO_2}$	tCO ₂ e/TJ	0	Default value from the applied GS4GG methodology
$LE_{p,y}$	tCO ₂ e/yr	0.95	Default value from the applied GS4GG methodology

Leakage:

The leakage fraction (0.95) is accounted for in the Emission Reduction Calculations applied methodology^{6/}.

Therefore, VVB confirms that data used and calculation of emission reduction are mentioned correctly and are in line with the monitoring plan as mentioned in the MR.

It can also be concluded by VVB that:

- The complete data set for the monitoring parameters was available as mentioned in the monitoring plan in the corresponding PDD for the duration of 08/06/2021 to 28/02/2023 (inclusive of both the days).
- The cross checks were undertaken for all the parameters indicated in the respective sections and were found complying with the requirements of the monitoring plan of the corresponding registered GS PDD (version 06)^{2/}.
- Appropriate methods and formulae for calculating baseline emission, project emissions and leakage have been followed which are in accordance with the applied GS4GG methodology.
- The claimed emission reductions are free from material errors, omissions or misstatements, with a reasonable level of assurance.

3.7 Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the MR and consistent with the corresponding registered GS PDD. The same practice is followed and it is confirmed by the VVB during the on-site inspection. The data related to ER calculation and other SDG impacts as well as data monitoring, collection process etc. have been

internally reviewed by the management of the Monitoring team regularly. The responsibility of each function is consistent with the monitoring plan in the registered GS PDD^{2/}.

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

It's verified during the on-site inspection, the monitoring procedure as well as the internal quality management and control procedures are stipulated in the registered GS PDD. The monitoring personnel have been interviewed by the assessment team and it's confirmed that the monitoring will be implemented as per the procedure. Also, the training records (training register and attendance sheet conducted by PP to the beneficiaries as well as survey team and employees working on the project has been checked by the assessment team and it is confirmed that the monitoring personnel are sufficiently trained to perform the monitoring.

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

4. REFERENCE

No.	Author	Title	References to the document	Provider
1.	PP	Monitoring Report (Initial)	Version 01, dated 05/03/2024	PP
		Monitoring Report (Final)	Version 5.1, dated 19/02/2025	
2.	PP	Registered GS PDD	Version 06, dated 01/02/2023	PP
3.	PP	Monitoring Database & its results	Version 02.0	PP
4.	PP	Ex-Post ER Sheet (Initial)	Version 01.0	PP
		Ex-Post ER Sheet (Final)	Version 05.0	
5.	4K Earth Science Pvt. Ltd.	Validation Report	Version 05 dated 01/02/2023	
6.	PP	GS4GG Sampling database	Version 01.0	PP
7.	GS4GG	Applied methodology: REDUCED EMISSIONS FROM COOKING AND HEATING: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC)	Version 03.1 https://globalgoals.org/standards/407_V3.1_EE_ICs_Technologies-and-Practices-to-Displace-	Public

			Decentralized-Thermal-Energy-TPDDTECCconsumption-.pdf	
8.	GS4GG	GS4GG Activity Requirements: • PRINCIPLES & REQUIREMENTS • COMMUNITY SERVICE ACTIVITY REQUIREMENTS • VALIDATION/VERIFICATION BODY REQUIREMENTS • GS VALIDATION & VERIFICATION STANDARD • GS4GG Safeguarding Principles & Requirements • GHG Emissions Reduction & Sequestration Product Requirements • GS4GG Requirements and Guidelines: Usage Rate Monitoring	Version 1.2 Version 1.2 Version 1.0 Version 2.0 Version 1.2 Version 2.2 Version 02.0	Other
9.	PP	Whole set - end user agreement between Beneficiaries & PP (carbon waiver records of HRS)	-	PP
10.	PP	Technical specifications and declaration on shelf life of HRS stoves of models-Eco1, Eco2, Eco3 and Eco-Mini.		
11.	PP	HRS Quality Checklist form	-	PP
12.	PP	Sample Kitchen Performance Tests forms (Baseline) Sample Kitchen Performance Tests (Project) KPT data compilation sheets	From 2020 until 2023	PP
13.	PP	KML file of the project implemented location	-	PP

14.	PP	Tally data extracts used to cross check the number of sales of various models of HRS devices sold during the current monitoring period		
15.	PP	Continuous Grievance Register	-	PP
16.	PP	Baseline and project Survey forms	From 2020 until 2023	PP
17.	PP	HRS Project database/Sales data for the current monitoring period-08/06/2021 to 28/02/2023. HRS employees master sheet		
18.	PP	Service call data sheet conducted by the PP during the current monitoring period-08/06/2021 to 28/02/2023	-	PP
19.	PP	Training attendance sheet for the trainings conducted during 2021 and 2022 Training module PPT and KPT requirements and procedure document	-	PP
20.	PP	No Double counting declaration from PP that PA is neither registered as GS or CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered		PP
21.	PP	Warranty cards of the HRS devices included in the current monitoring period.		
22.	PP	Project Annual Report https://assurance-platform.goldstandard.org/project-documents/GS10797	06/11/2023 16/12/2024	
23.	PP	Design Review Round under GS4GG at the time of registration		
24.	PP	Screenshots of the online generated simple random sampling.		
25.	GS	Approved deviation request GS772: https://globalgoals.goldstandard.org/standards/DEV_772-Deviation-Request.pdf		

5. FINAL VERIFICATION STATEMENT

Applus+ Certification has been appointed by Swiss Carbon Value Limited to perform the first verification of the registered GS project titled "Himalayan Rocket Stove Project in India" with the GS ID 10797, applying the GS4GG methodology TPDDTEC version 03.1^{/6/} and GS4GG guidelines.

The management of Swiss Carbon Value Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered GS PDD Version 06 and the applied GS4GG methodology TPDDTEC version 03.1^{/6/}.

Our verification approach was based on the requirements as defined in the Gold Standard for Global Goals (GS4GG). Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The VVB therefore confirms that:

- The project is operated as planned and described in the GS4GG registered PDD version 06;
- The monitoring plan is as per the applied methodology;
- The monitoring in Monitoring Report is as per the corresponding GS4GG registered PDD, Version 06 and the monitoring plan as described in the same;
- The development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- The GHG emission reductions are calculated without material misstatements and comply with the reasonable level of assurance criteria.

In our opinion, the GHG emission reductions for the GS project "Himalayan Rocket Stove Project in India" for the monitoring period 08/06/2021 to 28/02/2023 (Both days included) as reported in Monitoring Report version 04, prepared on the basis of the project's Monitoring Plan are fairly stated. The achieved SDG impacts SDG 13: -94.21%, SDG 7: -98.28% and SDG 15: -94.38% are provided in the table below for each vintage year of the current monitoring period:

Monitoring Period		Amount Achieved		
Start Dates	End Dates	VERs	No. of HHs	Firewood Saved (Tonne/Year)
		(SDG 13)	(SDG 7)	(SDG 15)
08/06/2021	31/12/2021	1,467	1353	1393
01/01/2022	31/12/2022	10,680	3477	9994

01/01/2023	28/02/2023	6,485	1741	6,170
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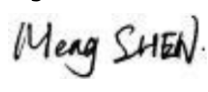
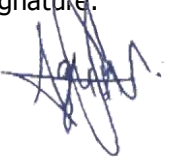
The summary of the achieved SDG impacts during the current monitoring period is provided below:

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
13 Climate Action	Emissions Reductions	18,632	tCO _{2e}
7 Affordable and clean Energy	Number of Households (HHs) got access to clean and affordable energy	6,571	No. of HHs
15 Life on Land	Tonnes of firewood saved by project stove as compared to traditional stove	17,577	Tons of wood saved

Date: 26/03/2025

Lead Auditor: Mr. Srikanth Meesa

Tech. Reviewer: Mr. Simon Shen

ASSESSMENT TEAM	
Lead Auditor: Mr. Srikanth Meesa	Technical Reviewer: Simon Shen
Signature 	Signature: 
Approver: Mr. Agustín Calle de Miguel	
Signature: 	

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

Corrective Action Request/Clarification Request/Forward Action Request resolution table

Table 1: Findings Overview Summary

Type	CAR	CL	FARs from GS review during validation
Total Number raised	04	07	02

Table 2. Remaining FARs from validation

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
To ensure transparency of sampling process, the PP shall use the online number generator or other traceable techniques. The PP shall maintain the screenshots of random number generation/evidence for the random selection of households for monitoring surveys. All evidence shall be submitted together with the following request for issuances.			
Project Participant's response		Date:	03/06/2024
Screenshot is submitted for Online random number generator for project stoves for each year has been submitted to VVB along with the other sampling survey data.			
Documentation provided as evidence by Project Participant			
Screenshot of online random survey generator, revised MR			
Auditor's assessment comment		Date:	19/08/2024
PP has submitted the screenshots of the online random sample generator. The sample was consistently applied by the PP to perform the monitoring surveys. Hence, the FAR is closed.			

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	02
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
The PP is requested to conduct the KPT tests prior next verification for each of the baseline scenarios and project scenarios. For homestay users’ group, the tourism seasons must be considered for KPT design. The number of people in different group of users (households, homestay, etc.) must be compared with the average number of people in the project boundary.			
Project Participant’s response		Date:	03/06/2024
Period considered for stove operation is peak winter season (inclusive of tourism season) last for 6 months only (from Oct to Mar) and KPTs are submitted to VVB which include wood consumption for project and baseline scenario for both homestays and households. It is established that there is no significant difference in wood consumption between household and homestays. Furthermore, number of homestays are very less below 2% in the database and no major variation identified as per the random survey sampling results. Nevertheless, PP has followed the conservative approach by considering the lower baseline and higher project wood consumption from the survey results. Please refer to the ER sheet for detailed approach followed for the calculation.			

Documentation provided as evidence by Project Participant		
Revised MR		
Auditor's assessment comment	Date:	19/08/2024
During the verification site visit and based on the review of the HRS database, it was noticed that the homestays are less than 2% of the total operational HRS for the current monitoring period. In addition to it, the wood consumption was found similar to wood consumption by the households. Further, as stated above, PP has calculated emission reductions conservatively. Hence, the FAR is closed.		

Table 3. CLs from the Current verification

Table of CLs from the current verification

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
From the grievance record, it is not clear whether the grievances are closed or not as there is no update on the communication or closure of issue is not provided. Further, the mode through which the concern/grievances were raised is not clear.			
Project Participant's response		Date:	03/06/2024
Please be clarified that in the grievance record submitted, mentioned resolution date & resolution summary confirms that the query has been resolved and it is added only after stove user confirms that the grievance is resolved. Furthermore, the field service team visits the user HH and/or sometimes guide them over telecom as well depending upon the issue to be resolved.			
Documentation provided as evidence by Project Participant			
Grievance Record, revised MR			
Auditor's assessment comment		Date:	19/08/2024
PP has provided the revised grievance record which included the resolution date and resolution summary. Further, it was clarified that the field survey team visits the beneficiaries on a regular basis including the telecom mode. CL 01 is closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	02
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	
Description of the audit finding		Date:	12/10/2023
As per the provided data, the assessment team could review the carbon waiver forms for 20-25 HHs only. However, the verification team is not able to confirm whether PP has obtained the carbon waiver forms for all HHs included in the list.			
Project Participant's response		Date:	03/06/2023
PP would like to clarify that the carbon waiver agreement was submitted on sample basis to the VVB. Furthermore, please note that carbon waiver agreement is also a document which covers warranty of two years for any kind of factory defect. Therefore, customer is precisely aware of the two criteria covered jointly in it, about carbon waiver condition & warranty. However, the entire data has been shared for cross check and review.			
Documentation provided as evidence by Project Participant			
Carbon Waiver Forms			
Auditor's assessment comment		Date:	19/08/2024

PP has submitted the carbon waiver forms for all the sold HRS during the current monitoring period. However, assessment team has taken the sample number as 68 which is calculated from the following website : <http://www.raosoft.com/samplesize.html> considering the population as 8,722, margin of error as 10% and level of confidence as 90%. All the reviewed waiver forms were found consistently presented in the provided data base. CL 02 is closed.

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	03
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
In the ER sheet (ER sheet_HRS_MNM_05062023), baseline fuel consumption is calculated based on the weighted average of the region (ex-Eco-mini sheet), whereas the project fuel consumption is calculated based on the weighted average of the year in the same Eco-Mini sheet. PP needs to clarify how it is appropriate and representative.			
Project Participant's response		Date:	03/06/2024
Please be clarified that, in case of project stove there was no significant difference in wood consumption observed across various project terrain (regions) hence age of stove was accounted for weighted average of wood consumption. However, region wise weighted average calculation is also presented for transparency. In the ER sheet, the sample for each state is also presented which indicates the selected sample is not only appropriate but also representative as per the GS guidelines.			
Documentation provided as evidence by Project Participant			
Revised MR and ER sheet			
Auditor's assessment comment		Date:	19/08/2024
Verification team has reviewed the revised ER sheet and found that the baseline fuel consumption data and the project fuel consumption data from the conducted KT's were calculated conservatively. The comparison from KPT values which are through actual measurement and the survey results data were compared and the conservative values are applied to calculate the baseline and project emissions data. CL 03 is closed. Further, PP has obtained the sample region wise and age wise too to ensure representativeness of the sample which is appropriate and inline with the GS guidelines and principles. Hence, the CL 03 is closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	04
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
Assessment team has noticed that the baseline survey HRT spread sheet indicated the wood consumption was not more than 45 kg/day and project sample wood consumption was not more than 25 kg/day. However, it is not clear why these values were not applied.			
Project Participant's response		Date:	03/06/2024
PP would like to clarify that the baseline study includes the room dimensions and the equivalent project stove model configuration in it. Therefore, simple average value of 45kg/day & 25 kg/day cannot be considered irrespective of project stove model & baseline room dimensions. Kindly refer to the "weighted average region" Tab for region wise model wise weighted average calculation of wood consumption to give you comparable consumption values for emission reduction calculation.			
Documentation provided as evidence by Project Participant			
Revised MR and ER sheet			
Auditor's assessment comment		Date:	19/08/2024

It is to be noted the above response provided by the PP is valid, reasonable and acceptable considering the dimensions of each model of the project HRs and it's purpose is different. Hence, the consumption would vary. Further, the actual data obtained through KPTs is reliable as it followed the specific and standard procedure to obtain the data as per Annex 4 of the applied methodology. Hence, assessment team is convinced that the values applied by the PP are valid, reliable, conservative and acceptable. Hence, CL 04 is closed.

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	05
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
It was observed, units are not provided in the weighted average year and region spread sheets of the ER sheet. Further, it is not clear how the provided values are obtained as those were not linked.			
Project Participant's response		Date:	03/06/2024
ER sheet is revised to address the above and included the required units and the values were also linked.			
Documentation provided as evidence by Project Participant			
Revised ER sheet			
Auditor's assessment comment		Date:	19/08/2024
PP has submitted the revised ER sheet and it was noticed the units are include in the weighted average year and region spread sheets. Further, the values were also found linked. Hence, the CL 05 is closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	06
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
The spreadsheet "weighted average" titled included the heading asProject wood consumption Weighted Average- Annual Surveyon top of the sheet. However, it was found linked to the cell AB of Eco-Mini which is the baseline wood consumption data sheet. Clarify.			
Project Participant's response		Date:	03/06/2024
PP has updated the name of the spreadsheet Tab from "Weighted average" to "HRS Annual weighted Avg". Also, the typo error in the worksheet has been removed.			
Documentation provided as evidence by Project Participant			
Revised ER sheet			
Auditor's assessment comment		Date:	19/08/2024
Verification team has reviewed the provided revised ER sheet and found name of the tab is updated consistently. Further, the typo error was also removed. Hence, CL 06 is closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	07
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
For the sake of transparency, PP is required to submit all the survey forms (filled-in) that were used while performing the KPT surveys.			
Project Participant's response		Date:	03/06/2024
PP hereby submitting the survey forms.			
Documentation provided as evidence by Project Participant			

Auditor's assessment comment	Date:	19/08/2024
PP has submitted the survey forms for review. Based on the review, it is confirmed the applied values are consistent and reliable. Hence, CL 07 is closed.		

Table 4. CARs from the Current verification

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
KPT survey report (baseline and project) showing the procedure (in line with the annex 4 of the applied methodology) and the description is not provided. Further, information on the type of surveys conducted and purpose of each survey was not stated in section D.4 of the MR.			
Project Participant's response		Date:	03/06/2024
PP has updated section D.4 of the MR to report the types of survey conducted & purpose of each survey. Also, would like to clarify that in line with registered PDD following guidelines has been applied: • "Sampling and surveys for CDM project activities and programme of activities Version 04" • "Requirements and Guidelines for carrying out usage surveys for projects implementing improved cooking devices." • Annex 4 of GSTPDDTEC, version 3.1 In line with registered PDD, Sampling & Survey guideline has been followed and "Simple Random Survey" (Proportion based) has been applied to calculate the "Sample Size" annually for carrying out "Usage Rate" survey. Furthermore, a minimum sample size of 30 HH have been considered to perform KPT from the random sample survey results considering the guidance given under Annex 4 of the GS TPDTEC and distribution of sample values has also been checked for skewness. Please refer ER excel sheet tab "Detailed Sampling" for witnessing the approach found suitable in line with the guidance. Being conservative, PP has chosen the lower value instead of mean (Average) value of the analysis for the baseline bhukari stoves & maximum values for the project stoves. Please refer KPT results tab in the ER sheet.			
Documentation provided as evidence by Project Participant			
Revised MR and related documents			
Auditor's assessment comment		Date:	19/08/2024
The revised MR is adequately updated to include the information on the purpose of each survey and brief on the procedure followed as per the annex 4 of the applied methodology. Hence, CAR 01 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
Application of leakage value as 5% of the baseline emission for the current monitoring period shall be justified, considering it is to be monitored ex-post as per the registered PDD (pg no 21).			
Project Participant’s response		Date:	03/06/2024
PP would like to update that at the time of monitoring survey, leakage Survey was also undertaken, and it is identified that the displaced technologies are not used outside the project boundary. Baseline stoves were disposed off safely. However, being conservative 5% leakage is still accounted for ER estimation for the current monitoring period. PP is submitting the documents to VVB along with revised set of response.			
Documentation provided as evidence by Project Participant			
Revised MR			

Auditor's assessment comment	Date:	19/08/2024
During the site visit, it was noticed that baseline stoves are disposed off and not in usage. Further, based on the principle of conservativeness, application of leakage value as 5% of the baseline emissions for the current monitoring period is acceptable. Hence, CAR 02 is closed.		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
In the KPT survey analysis sheet, PP is required to include the contact details and location of the HHs. Further, survey results and analysis spreadsheet does not include the dates of the survey.			
Project Participant's response		Date:	03/06/2024
Please be clarified that KPT analysis excel sheet is prepared based on the KPT forms therefore address, location, dates etc can be verified from the same. KPT forms has entire details. Please refer KPT Survey analysis excel sheet "Column J" in each year Tab for the start date of KPT test. Please refer to the KPT forms scanned copies submitted for each year. Please be clarified that end users contact details are updated in their personal government/banking data etc. Nevertheless, contact details (phone numbers) of end users have been provided (masked) in the project database and considered confidential information. End users are not willing to share it always, thus not presented in the forms.			
Documentation provided as evidence by Project Participant			
MR and ER sheet			
Auditor's assessment comment		Date:	19/08/2024
Assessment team has reviewed the above response and submitted documents and confirm the response by the PP is reasonable and acceptable Further, relevant information is provided in the survey forms. Hence, CAR 03 is closed. CAR 03 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Srikanth Meesa	Ref. to checklist in GS4GG MR:	GS MR
Description of the audit finding		Date:	12/10/2023
PP is required to provide the details of the survey team and demonstrate their competency to perform various surveys.			
Project Participant's response		Date:	03/06/2024
The survey is performed by in house team of HRS. The South pole has conducted training with HRS for survey and methodology requirement. The records of the same are already submitted to VVB. Therefore, team is competent to conduct project surveys.			
Documentation provided as evidence by Project Participant			
Revised MR, training records			
Auditor's assessment comment		Date:	19/08/2024
PP has provided information on the training of the survey team in section D.4 of the revised MR. Further, the survey team was interviewed during the on-site visit and found they were trained and have adequate competency to perform the surveys efficiently. Hence, CAR 04 is closed.			

Appendix 2: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Mr. Srikanth Meesa	Mr. Srikanth Meesa is a climate change professional with more than 18 years of experience in the fields of climate change, GHG auditing, carbon footprint assessments, water and energy audits, scope-3 emissions, net zero strategies, sustainability & ESG sectors and water and wastewater treatment sectors. He has completed his masters in Environmental Engineering & Management from I.I.T Delhi and Bachelors in Civil Engineering from Osmania University. Furthermore, he has extensive experience i.e., more than 17 years on the auditing of CDM, VERRA, GS, JCM projects of various sectoral scopes across the world. He has worked with reputed certification bodies such as TUV NORD, DNVGL, TUV SUD and LR. He also has consulting experience on sustainability reports & road-maps, stakeholder consultation and LCA studies while working at Thinkstep (Now called Sphera). Currently, he is associated with Global Green Solutionz and empaneled with Applus+ Certification to carry out GHG audits in the aforementioned schemes. Mr. Srikanth Meesa is based at Hyderabad, India. Mr. Srikanth Meesa participates as part of the Lead Auditor, Technical and country expert for this project.
Simon Shen	Mr. Simon Shen (Master's Degree in Thermal Energy Engineering, Bachelor's Degree in Environmental Engineering) is an Auditor appointed by Applus+ Certification (LGAI Technological Center, S.A) for the GHG project assessment, auditing and technical review. He worked with TUV SUD for 3.5 years and holds experience as GHG Auditor and ISO 9001/14001. Since 2014, Mr. Simon Shen works as an external individual in Applus+ Certification (LGAI Technological Center, S.A). He holds experience in CDM/GS4GG/VCS project assessment and technical reviews for the sectoral scopes 1.1/1.2/3.1/13.1/13.2. At the time, he participated in plenty of Chinese CCER audits and enterprises carbon emissions verifications. Mr. Simon Shen has extensive experience also as former Applus+ Shanghai CDM Technical Manager. Mr. Simon Shen is based in Shanghai, China. Mr. Simon Shen may participate as part of the Technical Reviewer.