


**BASIC INFORMATION**

Title and GS reference number of the project activity	Healthy cooking initiative for Tea Estate Workers of Nepal (GS 11308)
Scale of the project activity	<input type="checkbox"/> Large-scale <input type="checkbox"/> Small-scale <input checked="" type="checkbox"/> Micro-scale
Version number of the PDD(s) applicable to this monitoring report	Version 4.0 dated 26/07/2022
Completion date of the verification and certification report	31/10/2023
Monitoring period number and duration of this monitoring period	1 st Monitoring Period 01/09/2021 - 31/12/2022 (including both days)
Version number of the monitoring report to which this report applies	2.2 Dated 16/10/2023
The crediting period of the project activity corresponding to this monitoring period	1 st Crediting Period 01/09/2021 to 31/08/2026 (5 years renewable)
Activity Requirements applied	Community Services Activities
Product Requirements applied	GHG Emission Reduction & Sequestration
Coordinating/managing entity (CME)/Project Proponent (PP)	Value Network Ventures Advisory Services Pte. Ltd.
Host Country	Nepal
Applied methodologies and standardized baselines	GS Simplified Methodology for Efficient cookstoves version 1.1.
Mandatory sectoral scopes	3: Energy demand
Conditional sectoral scopes, if applicable	Not applicable
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	12,938 tCO ₂ e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	11,326 tCO ₂ e

SDG Impacts:	<ul style="list-style-type: none"> • SDG 3: Ensure healthy lives and promote well-being for all at all ages. • SDG 7: Ensure access to affordable, reliable, sustainable, and modern energy for all. • SDG 13: Climate Action
Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period	<ul style="list-style-type: none"> • SDG 3: Users perceived in reduction of Eye infection: 98.38% and respiratory disease: 98.79% • SDG 7: 98.02% • SDG 13: 11,326 GS VERs
Name and UNFCCC reference number of the VVB	E-0052: Carbon Check (India) Private Ltd.
Name, position, and signature of the approver of the verification and certification report	 Vikash Kumar Singh, Compliance Officer

SECTION A. Executive summary

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The Co-ordinating Managing Entity/Project Participant (Value Network Ventures Advisory Services Pte. Ltd.) has appointed the VVB, Carbon Check (India) Private Ltd. (CC IPL) to perform 1st independent verification of the GS Project Activity, “Healthy cooking initiative for Tea Estate Workers of Nepal” in Nepal (hereafter referred to as “Project Activity”) for the Gold Standard “GS11308/12/.

This Gold Standard (GS) microscale project activity is implemented at the households of the tea estate laborers who rely on wood fired traditional cookstoves to fulfill their cooking energy demand. By replacing inefficient stoves, the activity will save on consumption of woody biomass and reduce GHG emissions reduction.

The project is implemented focusing the tea estate labors, the project is confined to the Jhapa district of Nepal which is the prominent tea producing region of Nepal. The purpose of the project is to disseminate improved cook stoves to the users where they are traditionally using inefficient traditional cookstoves firing firewood as fuel. With the implementation of the project there will be saving in firewood consumption and thereby reduction in GHG emissions into the atmosphere. The project is broadly targeted to Jhapa district which is eastern region of Nepal.

Under the Project, a total of 1,463 ICS has been distributed from 1st September 2021 to 19th September 2021/11/. The distribution of the ICSs was completed within the first month of monitoring period, however the effective VER quantification accrued from one day after the date of completion of distribution i.e., from 20th September 2021. The project promoted NEP/STAR 4 model of ICS which is force draft one-pot hole metallic ICS with side feeding. The device has a useful life of 7-10 years (subject to usage) and operates at an initial efficiency of 38.02%. Introduction of project devices reduces the consumption of firewood thereby reducing the GHG Emissions. The stoves can basically serve to cook food for the households with high efficiency of 38.02% and also meets the Nepal Interim Benchmark for Solid Biomass Cookstoves (NIBC) 2016/7/.

This report summarizes the findings of the verification of the project, performed on the basis of Gold standard for global goals (GS4GG), and GS4GG methodology requirements, as well as given criteria for consistent project operations, monitoring, reporting, and the subsequent decisions by the Gold Standard Secretariat. Verification is required for all registered GS project activities intending to confirm their achieved emission reductions and proceed with a request for issuance of VERs. This report contains the findings and resolutions from the verification along with a certification statement for the certified emission reductions.

Verification is the process of periodic independent review and ex-post determination of both quantitative and qualitative information by a VVB of the monitored reductions in GHG emissions that have occurred as a result of the registered GS project activity during a defined monitoring period.

Certification is the written assurance by a VVB that, during a specific period in time, a project activity achieved emission reductions as verified.

The duration of this monitoring period is 01/09/2021 - 31/12/2022 (inclusive of both dates). The objective of this verification was to verify and certify Emission Reductions and SDG benefits achieved for the period of 01/09/2021 - 31/12/2022 (inclusive of both the dates) reported for the “Healthy cooking initiative for Tea Estate Workers of Nepal” in the host country.

The purpose of verification is to review the monitoring results and verify that the monitoring was implemented according to the monitoring methodology and the monitoring plan is given in the PDD/2/ and to confirm that the reductions in anthropogenic emissions by sources, are sufficient, definitive, and presented in a concise and transparent manner. CC IPL’s objective is to perform a thorough, independent assessment of the implementation of the registered Project Activity.

In particular, the monitoring plan, monitoring report, and the project's compliance with relevant UNFCCC, GS, and host Party criteria are verified to confirm that the component project/s has/have been implemented in accordance with the previously registered/included component project design with conservative assumptions, as documented.

Scope:

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered PDD /B03/
- To verify the implemented monitoring plan with the registered PDD /B03/ and applied baseline and monitoring methodology.
- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate, in order to be certified.

Verification process:

The verification comprises a review of the monitoring report covering the monitoring period from 01/09/2021 - 31/12/2022 under GS4GG and including the monitoring plan, emission reduction calculation spreadsheet, monitoring methodology and all related evidence provided by project participant as listed in appendix 3. On-site interviews were also conducted as part of the verification process.

Conclusion:

The verification team assigned by the Validation & verification body (VVB) concludes that the monitoring report (Version 2.2 dated 16/10/2023) /1/, meets all relevant requirements of the Gold Standard as per the requirements of GS4GG. The verification has been conducted in-line with the GS4GG requirements.

The project activity was correctly implemented according to the selected monitoring methodology, monitoring plan and the registered PDD/2/. The monitoring system was implemented, and maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the document review and On-site interviews, the verification team confirms that the project activity has resulted in the 11,326 tCO₂e emission reductions during the given monitoring period.

CC IPL as a Validation & verification body (VVB) is therefore pleased to issue a positive verification opinion expressed in the attached Certification statement.

SECTION B. Verification team

B.1. Verification team, technical reviewer, and approver¹

Carbon Check (India) Private Ltd. has appointed a competent team as per the UNFCCC Accreditation Standard, GS4GG requirements and CCIPL's internal procedures. Further details regarding team competence can be found in Appendix 2. The team is outlined below:

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	Site Visit	Interviews	Verification findings
1.	Team Leader / Verifier / Technical Expert	IR	Sharma	Harish	CC IPL	X	X	X	X
2.	Trainee Assessor	IR	Kumar	Pankaj	CC IPL	X	X	X	X
2.	Local Expert	IR	Maharjan	Saina	CC IPL	NA	X	X	

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

Sr. No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	IR	C	Indumathi	CC IPL
2	Approver	IR	Singh	Vikash Kumar	CC IPL

SECTION C. Application of materiality in conducting the verification.

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the potential risk		Assessment of the records/information/interview with personnel to check controls/mitigation measures
		Risk level	Justification	
1.	Human Error: Recording and reporting of the information in the ER spreadsheet.	Medium	All the ER spreadsheet data of the stoves/water purifiers, including sales database, determination of parameters for efficiency testing including data calculation. This includes all the parameters	The risk was mitigated by reviewing the training records of the personnel involved in the data capture and calculations. The monitoring responsibilities were reviewed. Also, the ER data/calculations were cross-checked to insure error-free data.

¹ Confirming to the GS requirements of paragraph 2.2, V1.2 (validation and verification by same VVB), VVB confirms that it was not involved in any kind of validation activity of the project.

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the potential risk		Assessment of the records/information/interview with personnel to check controls/mitigation measures
		Risk level	Justification	
			to be monitored ex-post as per the PD	
2.	Information System: Use of spreadsheets without adequate controls related to data changes/updates, version tracking, traceability, security	Medium	The data is recorded in spreadsheets based on the raw data collected during the field visits. Access to the spreadsheets for calculation of ERs, monitoring and sales database and baseline project & baseline, and other test records.	The identified risk was mitigated by reviewing the management of access to the records. It was confirmed through interviews whether the raw data is collected by the field personnel and then transmitted and stored electronically to the PP's office. The data quality control to be checked.
3.	Sample	Medium	The sample size is not suitable, or the surveyed plants are not random (If applicable)	Cross-check the procedure to identify the sample size against the sampling guideline and standard and confirm the sample size is calculated correctly.
4.	Competence of personnel involved in conducting Interviews.	Medium	Interview of the personnel involved and check the training records/accreditation certificates involved in conducting such tests.	The risk was mitigated by reviewing the training records of the personnel conducting such tests and following the monitoring responsibilities. For institutions involved in conducting such tests, their accreditation certificates were checked to establish their competence. The training records and certificates were reviewed which will also be confirmed during the onsite interview

¹ Confirming to the GS requirements of paragraph 2.2, V1.2 (validation and verification by same VVB), VVB confirms that it was not involved in any kind of validation activity of the project.

C.2. Consideration of materiality in conducting the verification

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The project is a Micro-scale, project activity achieving total emission reductions of < 10,000 tons of CO₂e per year; as such, a 10 percent materiality threshold is applied. The threshold of materiality was evaluated based on §9.6.3 (d) of GS4GG Validation and Verification Standard Version 1.2/15/. It was concluded that the materiality threshold applicable to the project activity based on actual emission reductions achieved is 10% of 11,326 tCO₂e which is equal to 1,132 tCO₂e.

Based on the above information, a risk analysis is carried out in the following activities:

1. Monitoring system including the data input procedure (including relevant personnel and applicable template forms used)
2. Copy of the agreement between household and Project Participant (s) (origin of data)
3. Stove unique ID system
4. ER sheet (application of data)
5. Data flow
6. Data control procedures
7. Monitoring survey records

In conducting the verification, VVB took cognizance of §9.6.3(d) of the guideline "GS Validation and Verification Standard, version 1.0 and based on the input of data from different sources checked through a sampling of records. Data flow was checked through a comparison of various data including electronic database, and ER sheet /3/. The competence of the personnel involved in conducting the recording of

data, and calculation of the emission reduction data has been checked by the verification team by means of a review of the training documents.

The risks identified can be mitigated through cross check with all sets of documents. The verification team performed the following checks to mitigate the effects of the above-identified sources of error:

Mitigation of Human error risks: The verification team mitigated the risk by checking the training records of the personnel and assessing their competencies, skills, monitoring/testing procedure followed, understanding of the monitoring survey forms, protocol and testing procedure, etc. Further, data was cross checked with the ER calculation spreadsheet /3/ and the sample raw data.

Mitigation due to error in the Information system: Verification team by conducting interviews with the personnel responsible for such activities mitigated the risk due to errors in an information system. It was confirmed through interviews that the raw data is collected by the field personnel and then transmitted and stored electronically at PP's office. The data quality control is maintained by the PP.

Accuracy of the measuring equipment: The risk due to inaccuracy in measurements was mitigated by reviewing the calibration certificates of all the project equipment.

Competence of personnel involved in conducting standardized tests: Verification team has reviewed the abilities, qualifications, and recognition of involved personnel and institutions of the measuring team. The tests/procedures have been carried out by well-trained personnel. The training certificate of the personnel has been provided to the verification team in this respect.

Mitigation due to error in Sampling: The verification team mitigated the risk by checking the ER sheet /3/, list of random samples generated for monitoring surveys, and the sample size calculation sheet.

In conducting the verification, VVB took cognizance of §13-17 of the Guideline: "Application of materiality in verifications" (version 2.0) and based on the input of data from different sources checked through sampling records. Based on the assessment carried out, CCIPL confirms with a reasonable level of assurance that the claimed emission reductions are free from material errors, omissions, or misstatements.

SECTION D. Means of verification

D.1. Desk/document review

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The verification was performed primarily based on the review of the Monitoring report/1/ and the supporting documentation. This process included a review of data and information presented to verify their completeness and a review of the monitoring plan and monitoring methodology. Documents reviewed or referenced during the verification are listed in Appendix 3 below.

D.2. On-site inspection

In line with GS4GG "Principal and Requirement" version 1.2/12/ and "GS site visit and remote audit requirement" v2.0/B02/, VVB has conducted an on-site inspection for verification of micro scale project activity on 1st August 2023. The following activities were carried out during the on-site visit.

The verification team has carried out on-site interviews with enumerators involved in monitoring to assess the information included in the project design document, and stakeholder consultation report. During the desk review, the relevant records related to project design, implementation and operation were checked, stakeholders engaged, and implementing agency and on-site beneficiary interviews were taken on a sampling basis.

Total 8 numbers of end user were selected for acceptance sampling.

The on-site interview was performed by a verification team as given in the table below.

D.3. Interviews

Interviews of end users were taken by a trained team of VVB, and interview records, and questionnaires were checked for reference. All surveys were conducted in person and photos and GPS coordinates were recorded. Submitted photos, snapshots and ER sheet maintained of site survey were checked by the verification team.

In line with the VV plan, the VVB team has interviewed the PP team members involved in the survey, records and in management of a project.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Kant	Sandeep Kr.	EPC Nepal	01-08-2023	Project Design, ownership, details, carbon credit sharing agreement, monitoring, and reporting arrangement, QA/QC procedure, baseline assessment, project technology, MR preparation, GS requirement, emission reduction calculations, methodology applicability, start date justification etc., survey report methodology, assessment sample selection, result etc.	Harish Sharma, Pankaj Kumar & Saina Maharjan
2	Rijjal	Neelam Sharma	Prakriti Consult Pvt. Ltd. (Nepal)	01-08-2023		
3	Sah Ravniyar	Ram Pravesh	EPC Nepal	01-08-2023		
4	Chhetri	Suraj	Consultant	01-08-2023		
5	Meche	Amar	EPC Nepal	01-08-2023		
6	Meche	Santosh	EPC Nepal	01-08-2023		

Outcome of interview with end users:

CC IPL team has interviewed various project cookstove owners on 1st August 2023. The list of the stove owners visited are as follows:

Sr. No.	Name of the user	District	VDC	Purchase date	ICS ID	Information verified/Questions asked	Interview Date	Feedback
1	Menuka Tamang	Jhapa	Mechinagar	09/05/2021	T300596	- Ownership proof/end user agreement	01-08-2023	ICS operational & Positive feedback on SD
2	Somari Urau	Jhapa	Mechinagar	09/05/2021	T300033	-Functional status of the ICS	01-08-2023	

Sr. No	Name of the user	District	VDC	Purchase date	ICS ID	Information verified/Questions asked	Interview Date	Feedback
3	Hira Devi Giri	Jhapa	Mechinagar	9/11/2021	T301441	- Users were asked to fire the ICS -Users were asked about fuel consumption quantity difference from baseline. -Users were asked about fuel collection time difference from baseline. - Asked whether any other cooking device was used during the MP. - Any improvement related to air quality compared to baseline. -Whether user is aware of grievance mechanism and whom to contact	01-08-2023	parameters
4	Shankar Thapa	Jhapa	Mechinagar	9/14/2021	T300133		01-08-2023	
5	Mutiya Munda	Jhapa	Mechinagar	9/06/2021	T301040		01-08-2023	
6	Dalshingh Rajbanshi	Jhapa	Mechinagar	9/19/2021	T301306		01-08-2023	
7	Abhishek Gowala	Jhapa	Mechinagar	9/11/2021	T300750		01-08-2023	
8	Bashanti Pahan	Jhapa	Mechinagar	9/17/2021	T300487		01-08-2023	

D.4. Sampling approach

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The monitoring parameters required to be monitored through the sampling plan are:

1. The average usage rate of the appliance ($U_{p,y}$)
2. Discount factor to account for usage of baseline cookstove during the year y in project scenario p ($DF_{b, Stove,y}$)

As per the 'Guideline: Sampling and surveys for CDM project activities and programmes of activities, version 09.0', paragraph 4. Sampling requirements point no. 10 states, "Where there is no specific guidance in the applicable methodology, project proponents shall use 90/10 confidence/precision as the criteria for the reliability of sampling efforts for Micro-scale project activities".

As per paragraph 4, project participants or the coordinating/managing entity have implemented the sampling and surveys according to the sampling plan in the registered monitoring plan. The verification includes determining:

- (a) Whether the required confidence/precision has been met.

(b) Whether the selected sample was representative of the population.

The necessary confidence/precision of 90/10 for each of the parameters is met. This has been cross verified by the verification team from the supporting documents submitted. During this monitoring exercise. The verification team applied a sampling approach for on-site interviews as part of verification in accordance with paragraph 26 of the Standard: Sampling and surveys for CDM project activities and programs of activities, Version 09.0. In accordance with paragraph 28 of the sampling standard, acceptance sampling has been chosen by the verification team, and accordingly, the steps listed in paragraph 29 of the sampling standard were followed. So, in accordance with paragraph 39 (c) of the sampling standard the Verification team opted for AQL of 0.5% and UQL of 20%; producer risk of 10 %, and consumer risk of 5 % in determining the VVB's sample size for which the sample size (n) is 8 with acceptance number (c) 0.

For monitoring the parameters stipulated in PDD, sample size was determined using simple random sampling as stipulated in section B.7.2 of Project Design Document. The sampling was performed within the level of precision of 10% and a confidence level of 90%. The sample was calculated using following equation:

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

Where:

n=Sample Size

N = Total number of ICS of type i installed under the project (1,463 as per the database)

P = expected proportion (0.50)²

1.645 = represents the 90% confidence required

0.1 = represents the 10% relative precision (0.1x0.5 = 0.05 = 5% points either side of p)

The sample size calculated was 229. Further enlarging the samples by 10% for possible non-responses and conservativeness, the total samples calculated was 252.

The section 4.2 of methodology also indicated the minimum sample size that should be taken as per the guidelines below;

- Project target population < 300: Minimum sample size 30
- Project target population 300 to 1000: Minimum sample size 10% of group size
- Project target population > 1000 Minimum sample size 100

Since, total population is > 1000, the minimum sample as per requirement is 1000. The calculated sample is 252. So, 252 samples were taken for the monitoring survey 2021/22 for the project.

In order to maintain the randomness of the sampling, the sample were drawn by generating random number using (=rand ()) function in MS excel and keeping them in descending order to get first 252 random samples from the database.

Out of 252 samples surveyed, 5 samples were found non-operational temporarily. So, 98.02% ICS was found to be operational during the monitoring period. The downtime of the operational ICS was also captured to account the continued use of pre-project devices and found that average downtime is 15.97 days. Also, the average number of meals cooked per day is found as 2.31. From this, the discount factor for any continued use of pre-project devices was calculated as 4.38% considering 16 days of down-time conservatively. Households' users were asked about SD indicators during Monitoring Survey.

The user survey was conducted by deploying the enumerators to the field from 15th August 2022 to 22nd August 2022. The information was collected interviewing the project households. The data collected from

² The expected proportion for the first survey as per the registered PDD is 50%. For consecutive monitoring, the proportion achieved in previous monitoring will be taken as expected proportion for sample calculation.

the field survey was entered in Excel and required tables for the survey reports were derived. Efforts were made to ensure the quality of data collected, data entry and data analysis for minimizing the data discrepancies. The reliability of the survey data was also checked through the precision achieved and found below 10%. So, the reliability has been met by the survey data.

SECTION E. Verification findings

E.1. Remaining forward action requests from validation and/or previous verifications

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There were no forward action requests from the previous verification.

E.2. Compliance of the project implementation and operation with the registered project design document

Means of verification	<p>Verification team by means of document review and on-site interview, assessed that all the features (technology, project equipment, and monitoring) of the registered PDD /2/ are in place and that the project participants have operated the project as per the registered/ PDD /2/.</p> <p>The location of the project activity is clearly defined in the registered PDD /2/. PP has implemented a project in Nepal that seeks to improve health and incomes of tea estate worker of Nepal by reducing the time and money spent acquiring fuel for household and institutional cooking.</p> <p>The NEP/STAR 4 stove is a is force draft one-pot hole metallic ICS with side feeding The verified/13/ specification of the NEP/STAR 4 stove is as below:</p> <p>Electrical component: Fan: 12 V, 0.25 A, 10 W heat resistant and replaceable Wire: Fire resistant Thermal Efficiency: 38.02%</p> <p>Based on a review of the documents and On-site interview, the verification team confirms that up to the reported monitoring period, the PD has distributed /2/,/11/ total of 1,463 improved cookstoves.</p> <p>As verified during the On-site interviews, the project implementation and operation, and the physical features of the project stoves comply with the registered project design document /2/.</p> <p>The verification team has checked the information in the monitoring report /1/ and compared it against the registered/ PDD /2/ and found it consistent.</p> <p>During the On-site interviews, the verification team checked the project location, implementation, technology applied, project equipment, physical features, and monitoring system against the information in the registered PDD /2/.</p>
Findings	N/A
Conclusion	<p>The verification team confirms that:</p> <p>a) The project activity is implemented as per registered PDD/2/.</p> <p>b) The actual operation of the proposed GS project activity is in line with the registered/ PDD/2/.</p> <p>In summary, the monitoring period is reasonable, and the operation of the project activity is in accordance with the registered PDD /2/.</p>

E.3. Post-registration changes

E.3.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents³.

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Not Applicable

E.3.2. Corrections

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Not Applicable

E.3.3. Changes to the start date of the crediting period

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Not Applicable

E.3.4. Inclusion of a monitoring plan

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Not Applicable

E.3.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

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Not Applicable

E.3.6. Changes to the project design

>>Not Applicable

E.3.7. Changes specific to afforestation and reforestation project activities.

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Not Applicable

E.4. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents.

Means of verification	Document Review, Interview
Findings	N/A
Conclusion	The verification team has confirmed the monitoring plan form registered PDD/2/ and applicable tools used during this monitoring period. The verification team has confirmed that the monitoring procedures during the on-site interviews with enumerators, stakeholders and end users and from document review by means of comparison with the information given in the monitoring plan and grievance mechanism. As per section G.1 of MR/1/, no grievances/input was received by PP during this monitoring period. VVB confirms that the monitoring plan and grievance mechanism is in accordance with the approved methodology /B01/, registered PDD /2/ and clause 12.14 of GS Validation and Verification Standard, version 1.0.

E.5. Compliance of monitoring activities with the registered monitoring plan

E.5.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The following ex-ante parameters are considered in the calculation of the emission reductions:
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³ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

	Parameters	Value	Description/Assessment
	CO2 emission factor arising from use of fire wood in baseline scenario ($EF_{b,fuel,CO_2}$)	1.747 tCO ₂ /ton of firewood	VVB has checked the ER sheet & PDD and found that the value for Emission Factor of CO ₂ is considered from approved methodology /4 and in line with PDD. So, the default value is acceptable.
	Non-CO2 emission factor arising from use of fire wood in baseline scenario ($EF_{b,fuel,non-CO_2}$)	0.53 tCO ₂ /ton of firewood	VVB has checked the ER sheet & PDD and found that the value for Emission Factor of non-CO ₂ is considered from approved methodology /4/ and in line with PDD. So, the default value is acceptable.
	Efficiency of the cookstove being used in the baseline scenario (η_b)	10%	VVB has checked the ER sheet & PDD and found that the value for efficiency of the cookstove being used in the baseline scenario (η_b) is considered from approved methodology /4 and in line with PDD. So, the default value is acceptable.
	Efficiency of the cookstove being used in the project scenario (η_p)	38.02%	ICS Efficiency test done by the Renewable Energy Test Station (RETs) pursuant to the National Interim Benchmark for Biomass based Cookstoves (2016)/7/. VVB has assessed the RETs report, efficiency of ICS is acceptable and in line with approved PDD/2/.
	Fractional non renewability ($f_{NRB,y}$)	91.44%	National value for the NRB provided by the host country DNA and calculated using "Tool 30: Calculation of the fraction of non-renewable biomass Version 03"/8/. VVB has assessed report, efficiency of ICS is acceptable and in line with approved PDD/2/.
	Tons Firewood per household per year ($B_{b,y}$)	4.2	The mean annual firewood consumption was recorded as 4.2 tonnes/HH/yr based on the kitchen performance test conducted for the project. VVB confirms that value is in line with PDD/2/
	Discount factor to account for efficiency loss of project cookstoves (DFn)	0.99 (1% efficiency loss per year)	VVB has checked the ER sheet & PDD and found that the value for Discount factor to account for efficiency loss of project cookstoves (DFn) is considered from approved methodology /4 and in line with PDD/2/. So, the default value is acceptable.
Findings	CAR 9 had been raised and has been resolved.		
Conclusion	The verification team confirms that the data and parameters fixed ex-ante are in compliance with the registered/ PDD /2/ and approved methodology /4/. Please refer to the Annex 5 for assessment of each parameter.		

E.5.2. Data and parameters monitored.

Mean of verifications	SDG	Parameter	Value	Description/Assessment
	SDG - 3	Perception of user's towards reduction in smoke	100%	PP has monitored the Users' perception on smoke reduction based on User Survey-2022/9/. CCIPL verified with 8 HHs and found result positive and as per User Survey-2022/9/ submitted by PP. Hence, PP's information is considered acceptable.

	SDG - 3	Perception of user's towards reduction in incidence of disease due to household air pollution	% of reduction in eye infection: 98.38% % of reduction in respiratory disease: 98.79%	PP has monitored the Users' perception on reduction in incidence of disease due to household air pollution based on User Survey-2022/9/. CCIPL verified with 8 HHs and found result positive and as per User Survey-2022/9/ submitted by PP. Hence, PP's information is considered acceptable.
	SDG - 7	Number of Cookstove in the project database for project scenario p through year y Np,y (Number)	1,463	As detailed above, the project cover 1,463 ICS. PP has monitored the number of project ICS in operation based on sampling survey. As per survey of 252 samples/9/. Hence, 98.02% of the total ICS considered operational during the monitoring periods. Hence, 1,463 is correctly considered for this monitoring periods. As detailed in section D.4 above, CCIPL verified 8 samples of project ICS and found all ICS were in operation. Hence, PP's information is considered acceptable.
	SDG - 7	Usage rate in project scenario p during year y (Up,y)	98.02%	This is assessed through users interviews during the monitoring. Survey (ICS User's Survey), the continuous use or drop-off rate of the ICS wchecked during the survey. In line with the applied methodology the efficiency is considered correctly.
	SDG - 7	Discount factor to account for the baseline stove use in project scenario p during the year y (DFp,stove,y)	4.38%	This was assessed through users interviews during the monitoring survey (ICS User's Survey). The discount factor for baseline-stove use was determined based on estimated number of meals cooked per day and the estimated number of days in a year using baseline stove identified through interview. Then the number of meals cooked using baseline was calculated based on the meals cooked per day and the days baseline stoves used. This is fractioned with total number of mills (calculated using the meals cooked per day and counting for a year) to identify. the discount factor
	SDG - 13	Reduction in GHG emissions	11326	Total amount of greenhouse gases avoided or sequestered during the reporting period.
Findings	CL 03, CAR 03 and CL 05 were raised to check the Usage rate in project scenario p during year y and Discount factor to account for the baseline stove use in project scenario p during the year y and have been resolved.			
Conclusion	The verification team confirms that the data and parameters monitored are in compliance with the registered PDD /2/ and the monitoring plan provided in registered PDD/2/.			

E.5.3. Implementation of sampling plan

<p>Mean of Verifications</p>	<p>Monitoring surveys were conducted during the current monitoring period. The total population of the stoves under project activity considered for the monitoring period is 1,463. The monitoring parameters monitored through the sampling plan are:</p> <ol style="list-style-type: none"> 1. $U_{p,y}$ - Usage rate in project scenario p during year y 2. $N_{p,y}$ - Project technologies credited (units) <p>The target population is the 1,463 ICS considered under the project activity. The sampling frame is homogenous within itself, with respect to service level, established ex-ante baseline and user characteristics. The PP considered 252 ICS for survey, Sampling-based monitoring was carried out for two monitoring parameters: Usage rate and Project Fuel consumption.</p> <p>Random sampling was applied for the project activity by PD for the selection of the monitoring samples with 90/10 confidence/precision for all the parameters of annual monitoring which is deemed acceptable as per the registered PDD.</p> <p>In total 252 HHs were sampled by PD as a result 247 HHs found to be using ICS. However, 5 HHs were found as non-users (damaged ICS or were being used for commercial purpose). Accordingly $U_{p,y}$ was calculated as 98.02%.</p> <p>Applying the random number generator, the cookstoves were randomly picked from the defined population up to the required sample size as calculated by the PD. The verification team confirms that the applied method for sample size calculation is in accordance with the registered PDD.</p> <p>The sampling plan implemented by the PD is in accordance with the approved monitoring methodology and the PDD. The PD has appropriately performed the Random Sampling procedure in line with the applied methodology and registered PDD and is best suited for this type of project. The verification took cognizance of “Simplified Methodology for Efficient cookstoves version 1.1/4/” and registered/ revised PDD/2/. The verification team applied a sampling approach for on-site interviews as part of verification in accordance with paragraph 26 of the Standard: Sampling and surveys for CDM project activities and programs of activities, Version 09.0. In accordance with paragraph 26 of the Standard: Sampling and surveys for CDM project activities and programs of activities, Version 09.0. In accordance with paragraph 28 of the sampling standard, acceptance sampling has been chosen by the verification team, and accordingly, the steps listed in paragraph 29 of the sampling standard were followed. So, in accordance with paragraph 39 (c) of the sampling standard the Verification team opted for AQL of 0.5% and UQL of 20%; producer risk of 10 %, and consumer risk of 5 % in determining the VVB’s sample size for which the sample size (n) is 8 with acceptance number (c) 0.</p>
<p>Findings</p>	<p>CL 04 was raised as the approach methodology for sampling and has been resolved.</p>
<p>Conclusion</p>	<p>The necessary confidence/precision of 90/10 for each of the parameters is met. This has been cross verified by the verification team from the supporting documents submitted and through random acceptance sampling.</p>

E.6. Compliance with the calibration frequency requirements for measuring instruments.

<p>Means of verification</p>	<p>There is no monitoring equipment involved in monitoring of the required parameters. Hence, no calibration requirement applicable for the project activity.</p>
<p>Findings</p>	<p>N/A</p>
<p>Conclusion</p>	<p>N/A</p>

E.7. Assessment of data and calculation of emission reductions or net removals

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

>> Since the emission reduction is directly calculated as per methodology formula baseline GHG emissions are not separately calculated. So not applicable

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

>> Since the emission reduction is directly calculated as per methodology formula project GHG emissions are not separately calculated. So not applicable

E.7.3. Calculation of leakage GHG emissions

Means of verification	The leakage is considered as zero in-line with methodology for project activities.
Findings	N/A
Conclusion	N/A

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

Means of verification	Total emission reduction is calculated according to the methodology “Gold Standard Simplified Methodology for Efficient Cookstoves (version 1.1)” as below:	
	$ER_y = \sum_{0 \text{ to } 1}^{x \text{ to } y} N_{P,y} * P_y * U_{P,y} * (f_{NRN,y} * EF_{b,fuel,CO2} + EF_{b,fuel,non-CO2}) * (1 - DF_{b,Stove,y})$	
	Where,	
	N _{p,y}	= Number of projects cookstoves of each age group operational in the year y (1,463 stoves as per database/distribution record)
	P _y	= Quantity of firewood that is saved in year y (tonnes per household in year y)
	U _{p,y}	= Usage rate for project cookstoves in year y, based on adoption rate and drop off rate revealed by usage surveys (fraction) (98.02% for the monitoring period)
	f _{NRB,b,y}	= Fraction of biomass, used in year y for baseline scenario, which can be established as non- renewable (91.44% fixed ex-ante).
	EF _{b,fuel,CO2}	= CO2 emission factor of firewood that is substituted or reduced. (Default value for wood fuel 1.747 tCO2/ton of wood)
	EF _{b,fuel,non_CO2}	= Non-CO2 emission factor of firewood that is substituted or reduced. (Default value for wood fuel 0.53 tCO2/ton of wood)
	DF _{b,Stove,y}	= Usage of baseline cookstove during the year y (fraction) in project scenario (4.38% for the monitoring period)
x	= y - 1	
y	= Year of the crediting period	
From the above equation and the parameter values, the emission reductions achieved during the monitoring period 01/09/2021 to 31/12/2022 is 11,326 tCO _{2e} .		
Findings	CL 03, CAR 03 and CL 05 were raised to check the Usage rate in project scenario p during year y and Discount factor to account for the baseline stove use in project	

	scenario p during the year y and have been resolved.
Conclusion	<p>1. The verification team confirms that the calculation of baseline emission and emission reductions is in accordance with the applied methodological equation and the registered PDD/2/. Calculations have been checked and confirmed from the ER spreadsheet/3/.</p> <p>2. The verification took cognizance of GS Simplified Methodology for Efficient cookstoves version 1.1/4/ Registered PDD/2/ and GS4GG requirements/10/.</p>

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

Means of verification	The emission reductions from the project for the monitoring period as reported in the monitoring report version 2.2 of 16/10/2023 /1/ is equivalent to 11,326 tCO ₂ e which is 12% less than estimated emission reductions of 12,938 tCO ₂ e for the monitoring period.
Findings	N/A
Conclusion	The emission reduction calculations provided in the spreadsheet /3/ have been verified to be correct and in line with the final PDD /2/.

E.7.6. Remarks on difference from estimated value in registered PDD

Means of verification	The achieved emission reductions are 12% less than estimated emission reductions. The reduction is due to reduction in operational status of project ICS and effective number of days considered for the monitoring period.
Findings	N/A
Conclusion	Conservative approach is applied for adjustment of emission reductions based on survey results and methodology requirements.

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

Means of verification	Data Variable	Source of Data	Reported value for the project period
	User's perception on reduction in incidence of disease caused by air pollutants (SDG 3)	Survey report /9/	Users perceived reduction in eye infection: 98.38% Users perceived reduction in respiratory disease: 98.79%
	Assessment		
	As per third party survey the sample end users reported positive feedback related to health and illness compared to baseline scenario. The monitoring procedure is as per registered monitoring plan and verification team also interviewed end users who confirmed positive feedback related to health and illness.		
	Data Variable	Source of Data	Reported value for the project period
	Increased access to clean cooking (SDG 7)	Survey report /9/	Users perceived reduction in time required for fuel collection: 99.60% Users perceived reduction in time required for cooking: 100%
Assessment			

	Under livelihood of poor, PP is targeting to monitor 'Reduction in fuel expenditure/reduction in fuel collection time' which has been done by third party surveyor from sample end users. 99.60% sampled users responded positively for reduction in fuel collection time and 100% for cooking time reduction. The monitoring procedure is as per registered monitoring plan and verification team also interviewed end users who confirmed positive feedback related to fuel collection time.		
	Data Variable	Source of Data	Reported value for the project period
	Emission Reduction (SDG 13)	ER sheet/3/	11,326
	Assessment		
	VVB has assessed the ER sheet of the project activity and confirms that the quantified ERs of the project the current monitoring period are 11,326 tCO _{2e} . The detailed calculations provided in the ER sheet deemed to be correct and acceptable.		
Findings	CL 01 & 03 and CAR 03 were raised and have been resolved.		
Conclusion	CCIPL confirms that monitoring of all the sustainable development monitoring parameters during this monitoring period are in line with the SD monitoring plan and are consistent with on-site visit observations.		

E.9. Global stakeholder consultation

Means of verification	Not Applicable
Findings	Not Applicable.
Conclusion	Not Applicable.

SECTION F. Internal quality control

>>

The final verification report passed a technical review before being submitted to the Gold Standard. The technical review is performed by a technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM validation and verification.

SECTION G. Verification opinion

>> Carbon Check (India) Private Ltd. (CCIPL) has performed the 1st periodic verification of the GSProject Activity "Healthy cooking initiative for Tea Estate Workers of Nepal" in Nepal having GS reference number GS 11308.

The verification team assigned by the VVB concludes that the project activity as described in the registered PDD (version 4 of 26/07/2022) /2/ and the monitoring report (version 2.2 dated 16/10/2023) /1/, meets all relevant GS4GG requirements for project activity and UNFCCC requirements. The verification has been conducted in-line with the GS4GG requirements.

Verification methodology and process:

The verification team confirms the contractual relationship signed on 07/02/2023 between the VVB, Carbon Check (India) Private Ltd. and Project Participants (Value Network Ventures Advisory Services Pte. Ltd.). The team assigned to the verification meets the CCIPL's internal procedures including the UNFCCC requirements for the team composition and competence. The verification team has conducted a thorough review as per GS4GG, UNFCCC and CCIPL's procedures and requirements.

The verification has been performed as per the requirements described in the GS4GG requirements /10/ and constitutes the review and completion of the following steps:

- Reviewing the registered PDD (Version 4, date 26/07/2022) /2/, including the monitoring plan and the corresponding validation report.
- Desk review of the validation report MR version 2.2/1/ and other relevant documents including documents related to the project activities in emission reductions.
- Review of the applied monitoring methodology (GS Simplified Methodology for Efficient cookstoves version 1.1) /4/.
- On-site interview (01/08/2023)
- Resolution of CARs and CLs raised during verification.
- Issuance of Verification Report

The project activity was correctly implemented according to the selected monitoring methodology, monitoring plan, and the registered PDD. The monitoring system was installed, and maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the document review and On-site interview, the verification team confirms that the project activity has resulted in the 11,326 tCO₂e emission reductions during the 1st monitoring period.

SECTION H. Certification statement

>> It is CCIPL's opinion that the GHG emission reductions stated in the monitoring report, version.2.2 dated 16/10/2023 for project activity, "Healthy cooking initiative for Tea Estate Workers of Nepal" for period 01/09/2021 to 31/12/2022 (Inclusive of both the dates) are fairly stated.

The VVB has raised 06 clarifications and 09 corrective action requests, all of which are closed. Furthermore, VVB has also raised 00 Forward action request during this verification.

The GHG emission reductions were calculated correctly based on the approved monitoring methodology, GS Simplified Methodology for Efficient cookstoves version 1.1. Hence, CCIPL is able to certify that the emission reductions from the project during the monitoring period 01/09/2021 to 31/12/2022 (Inclusive of both the dates) amount to 11,326 tCO₂e.

Appendix 1. Abbreviations

Abbreviations	Full texts
AQL	Acceptable Quality Limit
CDM	Clean Development Mechanism
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DR	Document review
DVR	Draft Verification Report
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final verification Report
GHG	Greenhouse gas(es)
GS4GG	Gold Standard for the Global Goals
GWh	Giga Watt Hour
I	Interview
IPCC	Intergovernmental Panel on Climate Change
IR	Internal resource
MP	Monitoring Period
MR	Monitoring Report
PP	Project Participant
QC/QA	Quality control /Quality assurance
SDGs	Sustainable Development Goal
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Limit
VVS	Validation and Verification Standard
VVB	Validation & Verification Body



Carbon
CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Harish Sharma


has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

<input checked="" type="checkbox"/> Validator	<input checked="" type="checkbox"/> Verifier	<input checked="" type="checkbox"/> Team Leader	<input checked="" type="checkbox"/> Technical Expert
<input type="checkbox"/> Technical Reviewer	<input type="checkbox"/> Health Expert	<input type="checkbox"/> Gender Expert	<input type="checkbox"/> Plastic Waste Expert
<input checked="" type="checkbox"/> SDG+	<input checked="" type="checkbox"/> Social no-harm(S+)	<input checked="" type="checkbox"/> Environment no-harm(E+)	<input type="checkbox"/> CCB Expert
<input type="checkbox"/> Financial Expert	<input checked="" type="checkbox"/> Local Expert for India		

in the following Technical Areas:

<input checked="" type="checkbox"/> TA 1.1	<input checked="" type="checkbox"/> TA 1.2	<input type="checkbox"/> TA 2.1	<input checked="" type="checkbox"/> TA 3.1	<input type="checkbox"/> TA 4.1
<input type="checkbox"/> TA 4. n	<input type="checkbox"/> TA 5.1	<input type="checkbox"/> TA 5.2	<input type="checkbox"/> TA 7.1	<input type="checkbox"/> TA 8.1
<input type="checkbox"/> TA 9.1	<input type="checkbox"/> TA 9.2	<input type="checkbox"/> TA 10.1	<input checked="" type="checkbox"/> TA 13.1	<input type="checkbox"/> TA 13.2
<input type="checkbox"/> TA 14.1	<input type="checkbox"/> TA 15.1			

<p>Issue Date 1st January 2023</p>  <p>Mr. Vikash Kumar Singh Compliance Officer</p>	<p>Expiry Date 31st December 2023</p>  <p>Mr. Amit Anand CEO</p>
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CCIPL_FM 7.9 Certificate of Competency_V2.1_012023



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Pankaj Kumar

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|---|--|--|--|
| <input checked="" type="checkbox"/> Validator | <input checked="" type="checkbox"/> Verifier | <input type="checkbox"/> Team Leader | <input checked="" type="checkbox"/> Technical Expert |
| <input type="checkbox"/> Technical Reviewer | <input type="checkbox"/> Health Expert | <input type="checkbox"/> Gender Expert | <input type="checkbox"/> Plastic Waste Expert |
| <input type="checkbox"/> SDG+ | <input type="checkbox"/> Social no-harm(S+) | <input type="checkbox"/> Environment no-harm(E+) | <input type="checkbox"/> CCB Expert |
| <input type="checkbox"/> Financial Expert | <input checked="" type="checkbox"/> Local Expert for India | | |

in the following Technical Areas:

- | | | | | |
|----------------------------------|--|----------------------------------|--|----------------------------------|
| <input type="checkbox"/> TA 1.1 | <input checked="" type="checkbox"/> TA 1.2 | <input type="checkbox"/> TA 2.1 | <input checked="" type="checkbox"/> TA 3.1 | <input type="checkbox"/> TA 4.1 |
| <input type="checkbox"/> TA 4. n | <input type="checkbox"/> TA 5.1 | <input type="checkbox"/> TA 5.2 | <input type="checkbox"/> TA 7.1 | <input type="checkbox"/> TA 8.1 |
| <input type="checkbox"/> TA 9.1 | <input type="checkbox"/> TA 9.2 | <input type="checkbox"/> TA 10.1 | <input type="checkbox"/> TA 13.1 | <input type="checkbox"/> TA 13.2 |
| <input type="checkbox"/> TA 14.1 | <input type="checkbox"/> TA 15.1 | | | |

Issue Date
15th May 2023

Expiry Date
14th May 2024

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO



Carbon Check (India) Private Limited

Certificate of Competency

Ms. Saina Maharjan

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- Validator
- Verifier
- Team Leader
- Technical Expert
- Technical Reviewer
- Health Expert
- Gender Expert
- Plastic Waste Expert
- SDG+
- Social no-harm(S+)
- Environment no-harm(E+)
- CCB Expert
- Financial Expert
- Local Expert for Nepal

in the following Technical Areas:

- TA 1.1
- TA 1.2
- TA 2.1
- TA 3.1
- TA 4.1
- TA 4. n
- TA 5.1
- TA 5.2
- TA 7.1
- TA 8.1
- TA 9.1
- TA 9.2
- TA 10.1
- TA 13.1
- TA 13.2
- TA 14.1
- TA 15.1

Issue Date

21st July 2023

Mr. Vikash Kumar Singh
Compliance Officer

Expiry Date

20th July 2024

Mr. Amit Anand
CEO



Carbon Check (India) Private Limited

Certificate of Competency

Ms. Indumathi C

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|--|--|---|--|
| <input checked="" type="checkbox"/> Validator | <input checked="" type="checkbox"/> Verifier | <input checked="" type="checkbox"/> Team Leader | <input checked="" type="checkbox"/> Technical Expert |
| <input checked="" type="checkbox"/> Technical Reviewer | <input type="checkbox"/> Health Expert | <input type="checkbox"/> Gender Expert | <input type="checkbox"/> Plastic Waste Expert |
| <input checked="" type="checkbox"/> SDG+ | <input checked="" type="checkbox"/> Social no-harm(S+) | <input checked="" type="checkbox"/> Environment no-harm(E+) | <input type="checkbox"/> CCB Expert |
| <input checked="" type="checkbox"/> Financial Expert | <input checked="" type="checkbox"/> Local Expert for India and Sri Lanka | | |

in the following Technical Areas:

- | | | | | |
|--|--|----------------------------------|---|---|
| <input checked="" type="checkbox"/> TA 1.1 | <input checked="" type="checkbox"/> TA 1.2 | <input type="checkbox"/> TA 2.1 | <input checked="" type="checkbox"/> TA 3.1 | <input type="checkbox"/> TA 4.1 |
| <input type="checkbox"/> TA 4. n | <input type="checkbox"/> TA 5.1 | <input type="checkbox"/> TA 5.2 | <input type="checkbox"/> TA 7.1 | <input type="checkbox"/> TA 8.1 |
| <input type="checkbox"/> TA 9.1 | <input type="checkbox"/> TA 9.2 | <input type="checkbox"/> TA 10.1 | <input checked="" type="checkbox"/> TA 13.1 | <input checked="" type="checkbox"/> TA 13.2 |
| <input type="checkbox"/> TA 14.1 | <input type="checkbox"/> TA 15.1 | | | |

Issue Date

1st January 2023

Expiry Date

31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Appendix 3. Documents reviewed or referenced.

No.	Title	Provider
/1/	<ol style="list-style-type: none"> 1. GS11308_Monitoring Report_MP-1_V01 dated 19/01/2023 2. GS11308_Monitoring Report_MP-1_V02 dated 13/09/2023 3. GS11308_Monitoring Report_MP-1_V2.1 dated 05/10/2023 4. GS11308_Monitoring Report_MP-1_V2.2 dated 16/10/2023 	PP
/2/	GS11308_MS_tea estate_PDD_26/07/2022_v04	PP
/3/	<ol style="list-style-type: none"> 1. GS11308_Emission Reduction Calculation Sheet_MP-1_V01 dated 19/01/23 2. GS11308_Emission Reduction Calculation Sheet_MP-1_V02 dated 13/09/23 3. GS11308_Emission Reduction Calculation Sheet_MP-1_V2.1 dated 05/10/23 4. GS11308_Emission Reduction Calculation Sheet_MP-1_V2.2 dated 16/10/23 	PP
/4/	The Gold Standard Simplified Methodology for Clean and Efficient Cookstoves v1.1	Publicly
/5/	GS11308_CCIPL 1022 FVR_VAL_GS11038_clean_30/07/2022	Publicly
/6/	Sampling and surveys for CDM project activities and programmes of activities v9	Publicly
/7/	Nepal Interim Benchmark for Solid Biomass Cookstoves (NIBC, 2016) (EN) (1)	PP
/8/	f _{NRB} confirmation by Designated National Authority (DNA); Ministry of Forest and Environment of Nepal_2022	PP
/9/	GS611308_ICS User Survey-2022	PP
/10/	Gold Standard for the Global Goals (GS4GG) Principles & Requirements	Publicly
/11/	GS11308_Households (HHs) Database	PP
/12/	Promotion of the Improved Cooking Stove (ICS) – Nepal (PoA)	Publicly
/13/	NEPSTAR-4_OEM Specification	PP
/14/	Renewable Energy Test Stations (RETS) Report	PP
/15/	GS Validation and Verification Standard; version 1.0	Publicly
/16/	GS 11308_MP-1_IQ_SDG-Impact-Tool	PP

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

1.1 Clarifications (CLs)

Table 1 CLs from this verification

CL ID	01	Section no.	D.2	Date: 14/08/2023
Description of CL				
In section D.2, the table shows 100% reduction in smoke. PPs shall clarify how the introduction of ICS can translate to such significant reduction in smoke.				
Project participant response				Date: 13/09/2023
The PP would like to clarify that parameter under consideration is the perception of the households. This doesn't imply that the smoke has reduced by 100%; rather, this informs that the entire households surveyed affirmed that use of project device has resulted in reduction of emission of the smoke compared to baseline device. Same has been mentioned in the "Description" of the parameter in the table. The table is also updated in section D.2 for the clarity. Same is updated for other similar parameters in section D.2 of the updated MR. So, PP would like to confirm that this is in line with registered PD. Please see updated MR.				
Documentation provided by project participant				
GS11308_Monitoring Report_MP-1_Clean_V02 GS11308_Monitoring Report_MP-1_Trackchange_V02				
VVB assessment				Date: 18/09/2023
VVB has assessed the PP response and MR and found that PP has updated/rephrase the sentence confirming that reduction in smoke is users' perception.				
#CL 01 is Closed.				
CL ID	02	Section no.	D.2	Date: 14/08/2023
Description of CL				
The value of DFp,stove,y in section D.2 is not in line with ER sheet and ICS users survey report 2022. CME shall clarify.				
Project participant response				Date: 13/09/2022
The PP noted that the discount factor to account for the baseline stove use in the project scenario is inconsistent among the MR and the ER sheet. The value monitored is 4.38%. The value in the ER sheet is corrected as per the users' survey report. Same is updated in all section of MR as well.				
Documentation provided by project participant				
GS11308_Emission Reduction Calculation Sheet_MP-1_V02 GS11308_Monitoring Report_MP-1_Clean_V02 GS11308_Monitoring Report_MP-1_Trackchange_V02				
VVB assessment				Date: 18/09/2023
VVB has assessed the PP response and MR and found that PP has updated the discount factor to account for the baseline stove use in the project scenario (DFp,stove,y) in line with ER sheet and ICS users survey report 2022.				
#CL 02 is Closed.				
CL ID	03	Section no.	D.3	Date: 14/08/2023

Description of CL	
In section D.3, the table shows 99.60% reduction in fuel collection time and 100% reduction in cooking time. PPs shall clarify how the introduction of ICS can translate to such significant reduction in collection and usage time.	
Project participant response	Date: 13/09/2023
The PP would like to clarify that parameter under consideration is the perception of the households. This doesn't imply that the time required for fuel collection and cooking are reduced by 99.60% and 100% respectively; rather, this informs that the % of users surveyed affirmed that use of project device has resulted in reduction of time for the fuel collection and cooking. Same is now updated in section D.3 for all the applicable parameters.	
Documentation provided by project participant	
GS11308_Monitoring Report_MP-1_Clean_V02 GS11308_Monitoring Report_MP-1_Trackchange_V02	
VVB assessment	Date: 18/09/2023
VVB has assessed the PP response and MR and found that PP has updated/rephrase the sentence confirming that reduction in fuel collection and cooking time are users' perception.	
#CL 03 is Closed.	

CL ID	04	Section no.	D.4	Date: 14/08/2023
Description of CL				
Random sampling size approach followed by CME is not clear to VVB from the GS611308_ICS user survey 2022 report. PP shall clarify the methodology for selecting the survey household. Furthermore, CME shall submit the complete database of the project.				
Project participant response				Date: 13/09/2023
The sampling approach adopted by the project developer is discussed in the section 2.2 of the survey report. Please see SD#1 for the same. The approach adopted on the selection of the household is specifically contained in section 2.2.3.4 (last paragraph). The detail of sampling is presented in Annex-1 of the survey report. Further detail to what was adopted is also explained in section D.4 of the MR. The project database is submitted as a supporting document as SD#2.				
Documentation provided by project participant				
SD#1_GS611308_ICS User Survey-2022 SD#2_GS11308_Database				
VVB assessment				Date: 18/09/2023
VVB has assessed the Survey report shared by PP and found that in section 2.2 of the report, the sampling approach is defined. CME has applied the random sampling approach and the random number generated and survey sample has been provided in annexure 1 of the report. Furthermore, VVB has assessed the MR and found that the section D.4 of the MR mentions the sample approach appropriately.				
#CL 04 is Closed.				

CL ID	05	Section no.	E.1	Date: 14/08/2023
Description of CL				
The value of DFb,Stove,y in ER sheet is not in line with user survey report 2022. PP shall clarify.				

Project participant response	Date: 13/09/2023
The actual value monitored for the parameter $DF_{b,Stove,y}$ is 4.38% however there was typo in ER sheet. So, the value is revised in ER sheet and corresponding emission reduction values are updated in all section of updated MR.	
Documentation provided by project participant	
GS11308_Emission Reduction Calculation Sheet_MP-1_V02 GS11308_Monitoring Report_MP-1_Clean_V02 GS11308_Monitoring Report_MP-1_Trackchange_V02	
VVB assessment	Date: 18/09/2023
VVB has assessed the PP response and MR and found that PP has updated the discount factor to account for the baseline stove use in the project scenario ($DF_{p,stove,y}$) in line with ER sheet and ICS users survey report 2022.	
#CL 05 is Closed.	

CL ID	06	Section no.	E.1.5	Date: 14/08/2023
Description of CL				
The equation reference in section E.5.1 is not in line with PD v4.0. PP shall clarify.				
Project participant response				Date: 13/09/2023
The equation referenced here is from this monitoring report section E.1 however to eliminate the confusion, the sentences is rephrased quoting the respective section of registered PDD in the updated MR.				
Documentation provided by project participant				
GS11308_Monitoring Report_MP-1_Clean_V02 GS11308_Monitoring Report_MP-1_Trackchange_V02				
VVB assessment				Date: 18/09/2023
VVB has assessed the PP response and MR and found that PP has updated the reference of emission reduction equation reference in line with approved PDD v4.0.				
#CL 06 is Closed.				

1.2 Corrective action required (CARs)

Table 2 CARs from this verification

CAR ID	01	Section no.	Page 2	Date: 14/08/2023
Description of CAR				
The header of the monitoring report is not in line with monitoring report templet guide v1.1. PP shall complete MR without any alteration to the form/template.				
Project participant response				Date: 13/09/2023
PP acknowledges that there was alteration in the header of the MR template used where the "Monitoring Report" stated in the header was missing. PP has applied valid template with the header; hence the identified alteration has been resolved. Please see the revised MR (version 02).				
Documentation provided by project participant				
GS11308_Monitoring Report_MP-1_Clean_V02				
VVB assessment				Date: 18/09/2023

VVB has assessed the MR and found that PP has updated the header in line with monitoring report template v1.1.

#CAR 01 is Closed.

CAR ID	02	Section no.	Page 2	Date: 14/08/2023
Description of CAR				
VVB has assessed that the POA Information table is missing from KPI section. PP shall use the MR template without altering the sections/tables.				
Project participant response				Date: 13/09/2023
The subject verification is being undertaken for the Gold Standard Project Activity. The MR template only requires the PoA information table to be retained in case of the PoA. Since the MR under consideration is for the project activity, the PoA information table was deleted as per the MR template guide.				
Documentation provided by project participant				
N/A				
VVB assessment				Date: 18/09/2023
PP has clarified the removal of POA information table. The same is in line with the MR template guidance.				
#CAR 02 is Closed.				

CAR ID	03	Section no.	Table 1	Date: 14/08/2023
Description of CAR				
SDG 3 in table 1 is Users' perception on smoke reduction and Incidence of disease, not actual reduction. PP shall reframe the sentences and incorporate all parameters of perception as per GS611038_ICS User Survey -2022 report.				
Project participant response				Date: 13/09/2023
The PP would like to clarify that parameter under consideration is the perception of the households. This doesn't imply that disease/smoke are reduced by the given percentage. Rather this informs that the % of users that perceived the reduction in disease/smoke. The user survey covers other parameters as well which all are not applicable in line with registered PD. So, the sentences are rephrased for the clarity in table 1 and throughout the MR for applicable parameters only in line with SDG tool for the project activity. Please see updated MR and SDG tool for the reference.				
Documentation provided by project participant				
GS11308_Monitoring Report_MP-1_Clean_V02 GS11308_Monitoring Report_MP-1_Trackchange_V02 SD#3 GS 11308_430_V1.0_IQ_SDG-Impact-Tool				
VVB assessment				Date: 18/09/2023
VVB has assessed the MR v2 and found that PP has rephrased the description appropriately.				
#CAR 03 is Closed.				

CAR ID	04	Section no.	A.3	Date: 14/08/2023
Description of CAR				
This link " https://globalgoals.goldstandard.org/408-ee-ics-simplified-methodology-for-efficientcookstoves/ " is not working. PP shall provide valid link.				

Project participant response		Date: 13/09/2023
<p>GS doesn't have practice to maintain the older version of the methodologies in its website once the newer version is unveiled. Hence, PP is not able to provide the link to the version 1.1 of the methodology since the GS has already come up with version 3.0 of the same methodology. However, the registered PDD applies version 1.1. The same link used in the PDD was copied to the MR. However, considering that the link in the MR misleads with the information, the same has been removed in the revised version of the MR (version 02).</p>		
Documentation provided by project participant		
<p>GS11308_Monitoring Report_MP-1_Clean_V02 GS11308_Monitoring Report_MP-1_Trackchange_V02</p>		
VVB assessment		Date: 18/09/2023
<p>VVB has assessed the MR and understand that PP has referred the same version methodology as found PDD. But, while clicking on link, file is not opening for verification, it is showing error. PP shall provide valid link in the section A.3.</p> <p>#CAR 04 is Closed.</p>		

CAR ID	05	Section no.	A.3	Date: 14/08/2023
Description of CAR				
<p>In section A.3, CME's shall update version of methodology to v3.</p>				
Project participant response				Date: 13/09/2023
<p>As the project activity is already registered in GS and the registered PDD applies version 1.1 of the methodology, PP is in the opinion that the same shall be applied throughout the crediting period. GHG emission reduction and sequestration product requirement require applying GS approved methodology for all GS VER projects. The projects may use the methodology applied at the time of preliminary review until the programme is design certified and the next update is required at the time of renewal of crediting period. Please refer to para 8.2.1 to 8.2.3 of the requirement. So, PP has used version 1.1 of the methodology in line with the requirement and registered PD.</p>				
Documentation provided by project participant				
N/A				
VVB assessment				Date: 18/09/2023
<p>VVB has assessed the MR and understand that PP has referred the same version methodology in line with certified PDD v4.</p> <p>#CAR 05 is Closed.</p>				

CAR ID	06	Section no.	A.4	Date: 14/08/2023
Description of CAR				
<p>PP shall update the section A.4, informing the crediting period number.</p>				
Project participant response				Date: 13/09/2023
<p>The Crediting Period number and the length of crediting period has been appropriately included in section A.4 of the updated MR.</p>				
Documentation provided by project participant				
<p>GS11308_Monitoring Report_MP-1_Clean_V02 GS11308_Monitoring Report_MP-1_Trackchange_V02</p>				

VVB assessment	Date: 18/09/2023
VVB has assessed the MR and found that PP has updated crediting period details in line with requirement.	
#CAR 06 is Closed.	

CAR ID	07	Section no.	B.1	Date: 14/08/2023
Description of CAR				
PP to share OEM specification of NEP Star-4 metallic stoves.				
Project participant response				Date: 13/09/2023
In this project activity, NEP Star-4 metallic stoves are implemented. So, the specification of NEP Star-4 stove is provided with this response. See SD#4 for the specification of the project stove.				
Documentation provided by project participant				
SD#4_NEPSTAR-4_Specification				
VVB assessment				Date: 18/09/2023
PP has shared the OEM specification of NEPSTAR-4 technical specification of NEPSTAR-4. VVB found okay.				
#CAR 07 is Closed.				

CAR ID	08	Section no.	B.1	Date: 14/08/2023
Description of CAR				
PP to submit the Renewable Energy Test Station (RETS) certificate.				
Project participant response				Date: 13/09/2023
The test certificates provided by Renewable Energy Test Station (RETS) for the project stoves is provided with this response. Please see SD#5 for the reference.				
Documentation provided by project participant				
SD#5 Stove Test Certificates_NEPSTAR-4_RETS				
VVB assessment				Date: 18/09/2023
PP has shared the Renewable Energy Test Station (RETS) for the project stoves. VVB found okay.				
#CAR 08 is Closed.				

CAR ID	09	Section no.	D.1	Date: 11/08/2023
Description of CAR				
VVB assessed that the f_{NRB} is fixed ex-ante, however, CME shall provide the f_{NRB} calculation for the VVB's review.				
Project participant response				Date: 13/09/2023
As indicated in the MR and registered PDD, this parameter was calculated by the DNA that was applicable during project registration. Same was validated by VVB during the design certification. This value is calculated for Nepal. The f_{NRB} confirmation and the calculation of the same applicable for this project activity is submitted with this response. Please see SD#6 for the reference.				
Documentation provided by project participant				
SD#6_ f_{NRB} confirmation by ministry_2022				

VVB assessment**Date: 18/09/2023**

VVB has assessed the f_{NRB} report shared by PP. VVB confirms that the f_{NRB} is computed as per the requirement of tool 30 and has been endorsed by the Designated National Authority (Ministry of Forest and Environment of Nepal).

#CAR 09 is Closed.

Appendix 5.1. Assessment of data and parameters fixed ex-ante at the time of validation.

Relevant SDG Indicator	SDG 13: Climate Action
Data/parameter	$EF_{b,fuel,CO_2}$
Data unit	tCO ₂ /tonne of firewood
Default values used	1.747 tCO ₂ /ton of firewood
Purpose of data	Calculation of baseline emissions
Source of verification of the source	Simplified methodology for efficient cookstoves (version 1.1)

Relevant SDG Indicator	SDG 13: Climate Action
Data/parameter	$EF_{b,fuel,non-CO_2}$
Data unit	tCO ₂ /tonne of fire woodfirewood
Default values used	0.53 tCO ₂ /ton of firewood
Purpose of data	Calculation of baseline emissions
Source of verification of the source	Simplified methodology for efficient cookstoves (version 1.1)

Relevant SDG Indicator	SDG 13: Climate Action
Data/parameter	η_b
Data unit	Fraction
Default values used	10%
Purpose of data	Calculation of baseline emissions
Source of verification of the source	Simplified methodology for efficient cookstoves (version 1.1)

Relevant SDG Indicator	SDG 13: Climate Action
Data/parameter	η_p
Data unit	Fraction
Default values used	38.02%
Purpose of data	Calculation of baseline emissions
Source of verification of the source	Test result of Renewable Energy Test Station

Relevant SDG Indicator	SDG 13: Climate Action
Data/parameter	$f_{NRB,y}$
Data unit	Fractional non renewability
Default values used	91.44%
Purpose of data	Calculation of baseline emissions
Source of verification of the source	Designated National Authority (DNA), Ministry of forests and Environment Nepal

Relevant SDG Indicator	SDG 13: Climate Action
Data/parameter	$B_{b,y}$
Data unit	Tons Firewood per household per year
Default values used	4.20%
Purpose of data	Calculation of baseline emissions
Source of verification of the source	Baseline Survey, 2021

Relevant SDG Indicator	SDG 7: Affordable and Clean Energy
Data/parameter	DF_n
Data unit	Fraction
Default values used	0.99 (1% efficiency loss per year)
Purpose of data	Calculation of baseline emissions
Source of verification of the source	Default value given by the methodology

Appendix 5.1. Assessment of data and parameters monitored.

Relevant SDG Indicator	SDG 3. Good Health and Well Being
Data/parameter:	Perception of user's towards reduction in smoke
Unit	Qualitative (%)
Description	Users' perception on smoke reduction due to project implementation.
Measured/calculated/default	Calculated
Source of data	Monitoring survey
Value(s) of monitored parameter	% of users perceived reduction in smoke: 100%
Monitoring equipment	N/A
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	This was assessed through user's interviews during the monitoring survey (ICS User's Survey).
QA/QC procedures:	The households are monitored through the monitoring surveys conducted by a third party to ensure an unbiased estimate of the results using sampling approach.
Purpose of data:	SD Assessment
Additional comments:	Requirements as defined in the sampling plan shall be met.

Relevant SDG Indicator	SDG 3. Good Health and Well Being
Data/parameter:	Perception of user's towards reduction in incidence of disease due to household air pollution
Unit	Qualitative (%)
Description	Users' perception on reduction in incidence of disease due to household air pollution after project implementation.
Measured/calculated/default	Calculated
Source of data	Monitoring survey
Value(s) of monitored parameter	% of users perceived reduction in eye infection: 98.38% % of users perceived reduction in respiratory disease:98.79%
Monitoring equipment	N/A
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	This was assessed through users' interviews during the monitoring survey (ICS User's Survey).
QA/QC procedures:	The households are monitored through the monitoring surveys conducted by a third party to ensure an unbiased estimate of the results using sampling approach.
Purpose of data:	SD Assessment
Additional comments:	Requirements as defined in the sampling plan shall be met.

Relevant SDG Indicator	SDG 7- Affordable and Clean Energy
Data/parameter:	$N_{p,y}$
Unit	Number of project cook-stoves credited (units)
Description	Cookstove in the project database for project scenario p through year y
Measured/calculated/default	Calculated
Source of data	Total sales record/Project database
Value(s) of monitored parameter	1,463
Monitoring equipment	Not Applicable
Measuring/reading/recording frequency:	Continuous
Calculation method (if applicable):	The ICS implemented under the projects are recorded in the database supplemented by the commissioning records/forms.
QA/QC procedures:	Transparent data recording systems is implemented with detail of ICS users, types of stoves, data of installation and unique ID if any for avoiding double counting.
Purpose of data:	Emissions reductions calculation
Additional comments:	NA

Relevant SDG Indicator	SDG 7- Affordable and Clean Energy
Data/parameter:	$U_{p,y}$
Unit	Percentage
Description	Usage rate in project scenario p during year y
Measured/calculated/default	Calculated
Source of data	Monitoring Survey
Value(s) of monitored parameter	98.02%
Monitoring equipment	Not applicable
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	This is assess through users interviews during the monitoring survey (ICS User's Survey), the continuous use or drop-off rate of the ICS will be checked during the survey.
QA/QC procedures:	The households are monitored annually through the monitoring surveys conducted by a third party to ensure an unbiased estimate of the results using sampling approach.
Purpose of data:	Emissions reductions calculation
Additional comments:	N/A

Relevant SDG Indicator	SDG 7- Affordable and Clean Energy
Data/parameter:	$DF_{p, stove, y}$

Unit	Percentage
Description	Discount factor to account for the baseline stove use in project scenario p during the year y
Measured/calculated/default	Calculated
Source of data	Monitoring Survey
Value(s) of monitored parameter	4.38%
Monitoring equipment	Not applicable
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	<p>This was assess through users interviews during the monitoring survey (ICS User's Survey). The discount factor for baseline-stove use was determined based on estimated number of meals cooked per day and the estimated number of days in a year using baseline stove identified through interview.</p> <p>Then the number of meals cooked was using baseline was calculated based on the meals cooked per day and the days baseline stoves used. This is fractioned with total number of mills (calculated using the meals cooked per day and counting for a year) to identify the discount factor.</p>
QA/QC procedures:	The households are monitored annually through the monitoring surveys conducted by a third party to ensure an unbiased estimate of the results using sampling approach.
Purpose of data:	Emissions reductions calculation
Additional comments:	N/A

Relevant SDG Indicator	SDG 7- Affordable and Clean Energy
Data/parameter:	Perception of user's towards reduction in time required for fuel collection
Unit	Qualitative (%)
Description	Users' perception on reduction in time required for fuel collection due to project implementation.
Measured/calculated/default	Calculated
Source of data	Monitoring Survey
Value(s) of monitored parameter	% of users perceived reduction in time required for fuel collection: 99.60%
Monitoring equipment	Not applicable
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	This was assessed through user's interviews during the monitoring survey (ICS User's Survey).

QA/QC procedures:	The households are monitored annually through the monitoring surveys conducted by a third party to ensure an unbiased estimate of the results using sampling approach.
Purpose of data:	SD Assessment
Additional comments:	Requirements as defined in the sampling plan shall be met.

Relevant SDG Indicator	SDG 7- Affordable and Clean Energy
Data/parameter:	Perception of user's towards reduction in time required for Cooking
Unit	Qualitative (%)
Description	Users' perception on reduction in time required for cooking food due to project implementation.
Measured/calculated/default	Calculated
Source of data	Monitoring Survey
Value(s) of monitored parameter	% of users perceived reduction in time required for cooking: 100%
Monitoring equipment	Not applicable
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	This was assessed through user's interviews during the monitoring survey (ICS User's Survey).
QA/QC procedures:	The households are monitored annually through the monitoring surveys conducted by a third party to ensure an unbiased estimate of the results using sampling approach.
Purpose of data:	SD Assessment
Additional comments:	Requirements as defined in the sampling plan shall be met.

Relevant SDG Indicator	SDG 13 – Climate Change
Data/parameter:	Reduction in GHG emissions
Unit	tCO ₂ eq
Description	Total amount of greenhouse gases avoided or sequestered during the reporting period.
Measured/calculated/default	Calculated
Source of data	Monitoring Survey
Value(s) of monitored parameter	11,326
Monitoring equipment	Not applicable
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	To quantify total GHGs emission reductions (ERs) avoided or sequestered, the project uses an applicable GHG quantification methodology.
QA/QC procedures:	N/A

Purpose of data:	Emission Reduction Reporting
Additional comments:	N/A