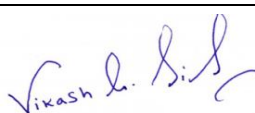




**Verification and certification report form for  
GS project activities  
(Version 03.0)**

BASIC INFORMATION	
<b>Title and GS reference number of the project activity</b>	Title: Sustainable Market Development of Improved cooking in rural Nepal by Practical Action GS reference no.: GS 10788
<b>Scale of the project activity</b>	<input type="checkbox"/> Large-scale <input checked="" type="checkbox"/> Small-scale <input type="checkbox"/> Micro-scale
<b>Version number of the verification and certification report</b>	4
<b>Completion date of the verification and certification report</b>	15/09/2023
<b>Monitoring period number and duration of this monitoring period</b>	3 <sup>rd</sup> monitoring period. Duration: 22/06/2021 to 21/06/2022 (including both days)
<b>Version number of the monitoring report to which this report applies</b>	1.4 dated 01/09/2023
<b>Crediting period of the project activity corresponding to this monitoring period</b>	02/09/2019 to 01/09/2024
<b>Project participants</b>	Value Network Ventures Advisory Services Pte. Ltd.
<b>Host Party</b>	India
<b>Applied methodologies and standardized baselines</b>	AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass -Version 11.1
<b>Mandatory sectoral scopes</b>	3
<b>Conditional sectoral scopes, if applicable</b>	N/A
<b>Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD</b>	35,321 tCO <sub>2</sub> e
<b>Certified amount of GHG emission reductions or GHG removals for this monitoring period</b>	10,545 tCO <sub>2</sub> e
<b>Name of the VVB</b>	Carbon Check (India) Private Limited
<b>Name, position and signature of the approver of the verification and certification report</b>	 Vikash Kumar Singh, Compliance Officer

## SECTION A. Executive summary

The purpose of the project is to displace the less efficient traditional cooking stoves with stoves of better efficiency (Improved Cooking Stoves). Replacement of the traditional cooking stoves with ICS will reduce the exposure of the family members, specifically women, to the indoor air pollution and therefore result in reducing risk of health related issues. Each stove disseminated under the project will potentially reduce the firewood consumption. The project involves promotion of metallic improved cooking stoves (ICS) by Practical Action, Nepal with an aim to strengthen private-sector led clean cook stove with innovative financing through preferential loans via cooperatives throughout Nepal. Practical Action is an innovative international development organisation putting ingenious ideas to work so people in poverty can change their world.

### Verification methodology and process

The Verification team confirms the contractual relationship signed on the 06/02/2023 between the Carbon Check (India) Private Ltd. (hereafter the "VVB") and the project participant - Value Network Ventures Advisory Services Pte. Ltd. The team assigned to the verification meets the Carbon Check (India) Private Ltd's internal procedures including the UNFCCC requirements for the team composition and competence. CCIPL has conducted a thorough contract review as per UNFCCC and Carbon Check's procedures and requirements.

The verification has been performed as per the requirements described in the Gold Standard for the Global Goals Principles & Requirements (version 1.2) /05/; and CDM VVS for project activities (version 03.0) /09/ and constitutes the review and completion of the following steps:

- Review of the registered PDD (Version 1.3; Dated: 03/11/2021) /02/, including the monitoring plan and the corresponding validation report /07/, the Sustainability Matrix and monitoring data;
- Desk review of the MR(version 1.4 dated 01/09/2023), emission reduction spreadsheet
- Review of the applied monitoring methodology "AMS-II.G 'Energy efficiency measures in thermal applications of non-renewable biomass'" (version 11.1) /04/;
- Review of any CMP and EB decisions, clarifications and guidance and the Gold Standard Secretariat;
- On-site assessment (15/03/2023 – 16/03/2023)
- Resolution of CARs and CLs raised during verification
- Issuance of Verification Report

The verification of the emission reductions reported for the project activity 'Sustainable Market Development of Improved cooking in rural Nepal by Practical Action', GS Registration Reference No. 10788 for the monitoring period 22/06/2021 to 21/06/2022, with regard to the relevant GS requirements and principles for project activities. The project was validated by Carbon Check (validation report CCIPL 862, version 2.1 of 03/11/2021) and the project got registered under GS on 01/09/2021.

In Carbon Check's opinion, the project activity was correctly implemented according to selected monitoring methodology monitoring plan and the registered PDD /02/. The monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through document review, on-site interviews, the verification team confirms that the project has resulted 10,545 tCO<sub>2e</sub> emission reductions during this 3<sup>rd</sup> monitoring period. The GHG emission reductions and non-GHG parameters were correctly calculated/monitored based on the approved monitoring methodology "AMS-II.G, "Energy efficiency measures in thermal applications of non-renewable biomass", (version 11.1) /04/ and the monitoring plan contained in the registered PDD (version 1.3; Dated: 03/11/2021) /02/.

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader/ Technical Expert/ Verifier	IR	Choudhary	Aparna	CC IPL	√	√	√	√
2.	Assessor	IR	K V	Kiran	CC IPL	√	√	√	√
3.	Local Expert	ER	Karmacharya	Prasan	CC IPL	x	√	√	x

Carbon Check as verifying entity of this verification also performed the validation of the project. However, the audit team was different from the one in validation. The audit team of validation was as below:

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader/ Technical Expert/ Verifier	ER	Buragohain	Champok	CC IPL	√	x	√	√
2.	Local Expert	ER	Ghimire	Narendra	CC IPL	√	x	√	√

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

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

**SECTION C. Application of materiality**

The threshold of materiality was evaluated based on “Guideline: Application of materiality in verifications” (version 02.0) /13/. It was concluded that the materiality threshold applicable to the project activity based on actual emission reductions achieved is 5% of 10,545 tCO<sub>2e</sub> which is equal to 527 tCO<sub>2e</sub>.

In planning the verification, verification team took cognizance of §11 and §12 of the “Guideline: Application of materiality in verifications” (version 02.0) /13/ and a materiality threshold of 527 tCO<sub>2e</sub> is determined for the current verification of the project activity.

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

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human error in the quantification of emissions (which may be more likely to occur if personnel are unfamiliar with, or not well trained regarding, emissions processes or data recording).	Low	Being third verification, there is less likelihood to have human error in the quantification of emissions. All data parameters are monitored through survey. Hence, the risk level is low.	During on-site audit, the audit team has interviewed the staffs of the monitoring team and checked all records to confirm whether the monitoring plan has been well implemented.  The recording of monitoring parameters used for determining the project’s baseline emissions are used from survey report, statistically approved sampling plan and project installation database. The verification team has reviewed the whole data set of records, and crosschecked against relevant options.  The verification team has interviewed the staffs of the monitoring team and checked the relevant records to confirm whether the data collection procedure and QA/QC procedure have been well implemented.
2.	Undue reliance on a poorly designed information system, which may have few effective quality controls.	Low	The project proponent has already established a well-organized monitoring team, monitoring plan, including data collection procedure and QA/QC procedure consistent with registered monitoring plan. The main data parameter to be monitored is operation status of ICS which is done through sampling survey. In addition, PP manages, entire project ICS database to locate and monitor as in when required. Therefore, less likelihood that poor flow of required data can be witnessed. Hence, the risk level is low.	
3.	Manual adjustment of otherwise automatically recorded activity levels	N/A	There is no data parameter which needs to adjust manually. Therefore, no risk identified.	

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

In line with Guidelines for Application of materiality in verifications /13/, a reasonable level of assurance is defined for the verification of the project by complete verification of all the monitoring records was done by the verification team and compared with the values indicated in the emission reduction spread-sheet.

Some inconsistencies were identified and subsequently finding was raised. These findings are detailed in Appendix 4 and they were successfully closed. Therefore, related identified mistakes as listed in findings in Appendix 4 to this report have been determined to be immaterial. And thus, it is confirmed that there are no material errors, omissions or misstatements and a reasonable level of assurance is established.

**SECTION D. Means of verification**

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

The verification was performed primarily based on the review of the Monitoring report /01/, emission reduction worksheet /03/ and supporting documentation. This process included review of data and information presented to verify their completeness and 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**

Duration of on-site inspection: 15/03/2023 – 16/03/2023				
No.	Activity performed on-site	Site location	Date	Team member
1.	Verify actual implementation of the project, management structure, project participant	Annapurna Rural Municipality	15/03/2023 - 16/03/2023	Aparna Choudhary, Kiran K V, and Prasan Karmacharya
2.	Physically checking the project technology, end user details, identification of project PV systems, whether the pre-project fuel is in use, whether the project PV systems are in operational	Modi Rural Municipality		
3.	Management and operational system: Documentation, allocation of responsibilities, qualification and training, data recording & archiving, internal audit and management review and emergency procedures	Baglung Municipality		
5.	Interviews with end user and other stakeholders			

**D.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Bahadur Karki	Chandra	Practical Action	15/03/2023 – 16/03/2023	Project Design, ownership details, carbon credit sharing arrangements, monitoring and reporting arrangements, QA/QC procedures, baseline assessment, project technology.	Aparna Choudhary, Kiran K V, & Prasan Karmacharya.
2.	Upadhyay	Basudev				
3.	Dey	Deboshmita	VNV Advisory	15/03/2023 – 16/03/2023	PDD development, GS requirements, Emission reduction calculations, methodology applicability, start date justification etc.	
4.	J	Banupriya				
5.	Mehra	Ajay				
6.	Gautam	Gyanendrapal	Dhaulagiri Community Resource Development Center (DCRDC)	15/03/2023 – 16/03/2023	Survey method, procedure, QA/QC, survey results. Operational status of ICS, baseline scenario, carbon rights transfer etc.	
7.	Dahal	Naba Raj				

**Outcome of interview with end users:**

CCIPL team has interviewed various project cookstove owners during on-site audit. The stove owners were questioned about the experience of owning the improved cookstove, the difference they find between the traditional cookstove and ICS and about their fuel savings. The list of the stove owners visited are as follows:

S.No	Name of the customer	Location	Installation date	ICS type	ICS ID	Feedback
1	Devi Gharti	Annapurna Rural Municipality-6, Dawa	16/07/2019	HPN JE-01 ND	PA/GS/ICS/00216	ICS operational. Positive feedback on SD

**CDM-VCR-FORM**

						parameters.
2	Manika BK	Annapurna Rural Municipality-6, Haijung	16/07/2019	HPN JE-01 ND	PA/GSICS/00217	ICS operational. Positive feedback on SD parameters.
3	Resham Kumari Gautam	Modi Rural municipality-7, thati	22/06/2019	HPN JE-01 ND	PA/GS/ICS/00036	ICS operational. Positive feedback on SD parameters.
4	Aaita Kumari Darji	Modi Rural Municipality-7, thati	27/06/2019	HPN JE-01 ND	PA/GS/ICS/00035	ICS operational. Positive feedback on SD parameters.
5	Ganga Datta Chapai	Baglung Municipality-12, Amalachaur	15/12/2021	HPN-01FD	PA/GS/ICS/05688	ICS operational. Positive feedback on SD parameters.
6	Usha Devi Sharma Paudel	Baglung Municipality-12, Amalachaur	15/12/2021	HPN-01FD	PA/GS/ICS/05685	ICS operational. Positive feedback on SD parameters.
7	Kopila Mani Sharma	Baglung Municipality-12, Amalachaur	15/12/2021	HPN-01FD	PA/GS/ICS/05649	ICS operational. Positive feedback on SD parameters.
8	Annata Raj Adhikari	Annapurna Rural Municipality-1, Adhikaridanda	22/07/2019	Greenway Jumbo	PA/GS/ICS/00229	ICS operational. Positive feedback on SD parameters.
9	Rewati Adhikari	Annapurna Rural Municipality-1, Adhikaridanda	22/07/2019	Greenway Jumbo	PA/GS/ICS/00221	ICS operational. Positive feedback on SD parameters.
10	Sangita Nepali	Annapurna Rural Municipality-1, Nepalitol	22/07/2019	Greenway Jumbo	PA/GS/ICS/00230	ICS operational. Positive feedback on SD parameters.
11	Mina Kunwar	Annapurna Rural Municipality-1, Kunwarthar	22/07/2019	Greenway Jumbo	PA/GS/ICS/00227	ICS operational. Positive feedback on SD parameters.

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#### D.4. Sampling approach

##### PP's sampling approach:

PP has proposed simple random sampling plan using 90/10 as confidence / precision. This is in line with the applied methodology /04/. The sample size for each parameter is determined following guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0 (EB86, Annex 4) /10/.

##### CC IPL's verification sampling approach:

CC IPL has considered para 39 (a) of "Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 09.0" for determining the sampling size to be visited by VVB /11/. In case of the current verification, being the estimated emission reduction is 35,321 tCO<sub>2</sub>e per year, the verification team determined the sample size for acceptance sampling by evaluating the following, using its own professional judgment and guidance in the Standard 'Sampling and surveys for CDM project activities and programme of activities' version 09.0 /11/: Considering Acceptable Quality Level (AQL): 0.5% Unacceptable Quality Level (UQL): 20% and producer risk and consumer risk of 10% each, a sample size of 11 was required as per Table 2 in the referred Standard /11/. Acceptance number (c) thus determined for the sample size is 0. CC IPL interviewed 11 samples to verify the project activity. The verification team selected random samples from PP's sample list. VVB has assessed on-site visit entire 11 samples. The stoves details (unique serial number, date of installation, type of ICS, name of user and address) were also checked and found to be consistent with that reported in the installation database. The inconsistencies observed in the selected samples during the on-site inspection has been reported in the appendix-4 of this document. The raised findings has been closed successfully.

#### D.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	01	01, 02, 03, 06, 07	--
Remaining forward action requests from validation and/or previous verifications			
Compliance of the project implementation and operation with the registered PDD	04	04, 08	--
Post-registration changes	--		--
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	05	11	
Compliance of monitoring activities with the registered monitoring plan	02, 03, 07	12	01
Compliance with the calibration frequency requirements for measuring instruments			--
Assessment of data and calculation of emission reductions or net removals	06, 08,09	05, 09	--
Assessment of reported sustainable development co-benefits			--
Global stakeholder consultation			--
Others (Supporting documents)		10	--
Other (Sustainability Monitoring)			--
<b>Total</b>	<b>09</b>	<b>12</b>	<b>01</b>

## SECTION E. Verification findings

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

<b>Means of verification</b>	Desk review/ on-site interview
<b>Findings</b>	CL01, CAR01, CAR02, CAR03, CAR06, and CAR07 have been raised and closed successfully



<b>Conclusion</b>	CCIPL confirms that the monitoring report version 1 of 27/01/2023 and later versions are prepared using GS monitoring report template version 1.1 of 14/10/2020 which is the latest available template and completed with relevant information as per the template requirement.
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## E.2. Remaining forward action requests from validation and/or previous verifications

<b>FAR ID</b>	01	<b>Section No.</b>		<b>Date:</b> 28/06/2022
<b>Description of FAR</b>				
The UNFCCC sampling and survey guidelines, version 04, recommends data processing and report generation in clause 9.4. PP is requested to prepare a Survey Report compiling information and aligning with sampling and survey guidelines from next monitoring for improving QA/QC. The verifying entity shall check the same in next verification.				
<b>Project participant response</b>				<b>Date:</b> 17/05/2023
As per the raised FAR, PP has prepared a survey report for the current monitoring period.				
<b>Documentation provided by project participant</b>				
Nepal GS ICS MP03 Survey report				
<b>VVB assessment</b>				<b>Date:</b> 28/06/2023
PP has provided the survey report of the current monitoring period to the VVB and the same has been reviewed and confirm that the report contains information on the sampling and survey guideline and the provided information is in line with the applicable PDD, and UNFCC sampling and survey guideline.				
Thus, the FAR is closed.				

## E.3. Compliance of the project implementation and operation with the registered project design document

<b>Means of verification</b>	Desk review/ on-site interview
<b>Findings</b>	CLO4, CAR04, and CAR08 have been raised and closed successfully.
<b>Conclusion</b>	<p>As verified during onsite inspection the audit team confirms the project implementation and operation complies with the project design document /02/. The project is an initiative of Practical Action, Nepal. Practical Action is an innovative international development organization putting ingenious ideas to work so people in poverty can change their world. The project is promoting three types of metallic ICS with model name 'HPN JE-01 ND', 'HPN-01FD' and 'Greenway Jumbo' with thermal efficiency of 30.29%, 41.24% and 29.79% /15/. The project ICSs are metallic stoves with is a single pot hole rocket stoves with natural draft ('HPN JE-01 ND' &amp; 'Greenway Jumbo') and forced draft (HPN-01FD. The project technology was witnessed by the verification team during onsite inspection which is found to be consistent with sales receipt, test certificates as detailed in the project design document. Each ICS has a technical life of at least 7 years as confirmed from stove manufacturer /15/16/.</p> <p>The project has implemented a total 7,114 ICS between 22/06/2019 to 21/06/2022 with 3,177 ICS of HPN JE-01 ND type, 3876 of HPN-01FD and 61 of Greenway Jumbo'.</p> <p>The baseline cooking practice in Nepal is the use of the "three-stone" cooking stove, popularly known as traditional stoves using firewood. The project thus reduces greenhouse gas (GHG) emissions by replacing traditional wood-fuel three stone stoves with wood-fuel ICS. The replacement of traditional stoves by ICS improves heat transfer to the cooking utensil thereby reducing the amount of fuel (non-renewable biomass) required for cooking. A reduction in consumption of non-renewable biomass contributes towards reduction in GHG emissions into the atmosphere. Thus, ICS reduce GHG emissions through their improved thermal efficiency as compared to traditional/ baseline stoves. This project is implemented Practical Action wherein innovative financing for clean cook-stoves through preferential loans via cooperatives are adopted. Users transfer the ownership of carbon credit via end user agreement /17/. VNV is working as partner to Practical Action for sale of carbon credit generated from the project activity /17/. The operational and management structured is verified from document review and interview with VNV and Practical Action representatives. CCIPL has verified 11 project ICS as explained in section D.4 above to ascertain accuracy of information.</p>

CCIPL confirms the project cook-stoves are operating in all samples visited, each cook-stove has unique identification number which has been marked on the cookstove and also available in sales receipt and are correct as per project database. Along with the serial number, the stove model, end user name, address, installation date etc. had also been noted which were found to be consistent on ground.

It is noted that no changes have been observed or identified which may impact the additionality, no addition of component nor extension of technology, no addition nor removal of project sites, no change of values of the actual operational parameter relevant to determination of emission reductions which are within the control of the PP; no change has been observed or identified that may impact the scale of the project activity or applicability of baseline and monitoring methodology AMS-II.G version 11.1 /04/. The operational status of all project ICS, impact on identified SDGs from 22/06/2020 to 21/06/2021 has been taken into consideration.

It is Carbon Check's opinion that the project implementation and operation complies with the project design document.

#### **E.4. Post-registration changes**

##### **E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents<sup>1</sup>**

>>

Not Applicable

##### **E.4.2. Corrections**

>>

Not Applicable

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

>>

Not Applicable

##### **E.4.4. Inclusion of a monitoring plan**

>>

Not Applicable

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

>>

Not Applicable

##### **E.4.6. Changes to the project design**

>>

Not Applicable

##### **E.4.7. Changes specific to afforestation and reforestation project activities**

>>

Not Applicable

<sup>1</sup> 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).

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

<b>Means of verification</b>	Desk review/ on-site interview
<b>Findings</b>	CL05 and CAR11 have been raised and closed successfully.
<b>Conclusion</b>	During this monitoring period, the validated and registered monitoring plan was found to be in accordance with the applied methodology /02/, /04/. All monitoring parameters, monitoring procedures follow the methodology requirements and registered monitoring plan.

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

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

<b>Means of verification</b>	Desk review/ on-site interview																				
<b>Findings</b>	No findings has raised																				
<b>Conclusion</b>	<p>The following ex-ante parameters are considered in the calculation of the emission reductions:</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Value</th> <th>Description/Assessment</th> </tr> </thead> <tbody> <tr> <td>Quantity of woody biomass used per ICS in the absence of the project activity (<math>B_{old,HH}</math>) in Tonnes /year</td> <td>3.80 tonne/HH/year</td> <td>The data has been derived from baseline surveys and fixed ex-ante in the registered PDD /02/ as required by the methodology /04/.</td> </tr> <tr> <td>Efficiency of the system being replaced (Traditional Cooking Stoves) (<math>\eta_{old,i,j}</math>)</td> <td>10%</td> <td>Default value is taken as per applied methodology Table 17 /04/. This is consistent with registered PDD.</td> </tr> <tr> <td>Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass (<math>f_{NRB,y}</math>) (Fraction)</td> <td>86%</td> <td>Calculated as per procedures outlined in tool of Annex 07 of EB 102 and approved from Ministry of Environment and Forest, Nepal.</td> </tr> <tr> <td>Emission factor for the substitution of non-renewable woody biomass by similar consumers (<math>EF_{projected\_fossilfuel}</math>) in tCO<sub>2</sub>/TJ</td> <td>64.4</td> <td>Emission factor for the substitution of non-renewable woody biomass by similar consumers. Default value as per the applied methodology /04/.</td> </tr> <tr> <td>Leakage adjustment factor (<math>L_y</math>) (fraction)</td> <td>0.95</td> <td>Net to gross Adjustment Factor. Default value as per the applied methodology /04/.</td> </tr> </tbody> </table> <p>CCIPL is able to confirm that the Data and parameters fixed ex ante have been implemented in full compliance with the registered monitoring plan.</p>			Parameter	Value	Description/Assessment	Quantity of woody biomass used per ICS in the absence of the project activity ( $B_{old,HH}$ ) in Tonnes /year	3.80 tonne/HH/year	The data has been derived from baseline surveys and fixed ex-ante in the registered PDD /02/ as required by the methodology /04/.	Efficiency of the system being replaced (Traditional Cooking Stoves) ( $\eta_{old,i,j}$ )	10%	Default value is taken as per applied methodology Table 17 /04/. This is consistent with registered PDD.	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass ( $f_{NRB,y}$ ) (Fraction)	86%	Calculated as per procedures outlined in tool of Annex 07 of EB 102 and approved from Ministry of Environment and Forest, Nepal.	Emission factor for the substitution of non-renewable woody biomass by similar consumers ( $EF_{projected\_fossilfuel}$ ) in tCO <sub>2</sub> /TJ	64.4	Emission factor for the substitution of non-renewable woody biomass by similar consumers. Default value as per the applied methodology /04/.	Leakage adjustment factor ( $L_y$ ) (fraction)	0.95	Net to gross Adjustment Factor. Default value as per the applied methodology /04/.
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#### E.6.2. Data and parameters monitored

<b>Means of verification</b>	Desk review/ on-site interview													
<b>Findings</b>	CL02, CL03, and CL07 has been raised and closed successfully.													
<b>Conclusion</b>	<table border="1"> <thead> <tr> <th>Parameter</th> <th>Value</th> <th>Description/Assessment</th> </tr> </thead> <tbody> <tr> <td>Number of project devices of type i and age</td> <td>7,114</td> <td>It is noted from project database it is verified a total of 7,114 ICS were installed between 22/06/2019 to 21/06/2022 as below /20/:</td> </tr> <tr> <td></td> <td></td> <td> <table border="1"> <tr> <td>Model</td> <td>Total ICS installed</td> </tr> </table> </td> </tr> </tbody> </table>			Parameter	Value	Description/Assessment	Number of project devices of type i and age	7,114	It is noted from project database it is verified a total of 7,114 ICS were installed between 22/06/2019 to 21/06/2022 as below /20/:			<table border="1"> <tr> <td>Model</td> <td>Total ICS installed</td> </tr> </table>	Model	Total ICS installed
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		<table border="1"> <tr> <td>Model</td> <td>Total ICS installed</td> </tr> </table>	Model	Total ICS installed										
Model	Total ICS installed													

	a that are operating in year y $N_{y,i,a}$ (Number)		<table border="1"> <tr> <td>HPN JE-01 ND</td> <td>3,177</td> </tr> <tr> <td>HPN-01FD (old)</td> <td>76</td> </tr> <tr> <td>HPN-01FD (new)</td> <td>3800</td> </tr> <tr> <td>Greenway Jumbo</td> <td>61</td> </tr> </table> <p>From the total commissioned ICS, PP has monitored the number of project ICS in operation based on sampling survey. As per survey of 99 samples, all samples were operating at the time of survey. Hence, 100% of the total commissioned ICS during the monitoring period is considered in operation. Hence, 7,114 is correctly considered for this monitoring period. As detailed in section D.4 above, CCIPL verified 11 random samples of PP's sample record and found all ICS were in operation. Hence, the information available in the database to be consistent with onsite observations.</p>	HPN JE-01 ND	3,177	HPN-01FD (old)	76	HPN-01FD (new)	3800	Greenway Jumbo	61							
	HPN JE-01 ND	3,177																
	HPN-01FD (old)	76																
	HPN-01FD (new)	3800																
	Greenway Jumbo	61																
Efficiency of the device of each type l and batch j implemented as part of the project activity ( $\eta_{new,l,j}$ )	<p>HPN JE-01 ND' model= 27.35%,</p> <p>HPN-01FD' model (old) =35.18%</p> <p>HPN-01FD' model = 41.24%</p> <p>Greenway Jumbo model =27.01%</p>	<p>PP has chosen linear decrease in efficiency as per paragraph 37(a) of the methodology and accordingly monitoring of the efficiency is not required. Being third year of operation, the linear decrease in efficiency as calculated correctly following methodology guideline has been applied and accepted by verification team. Yearly linear decrease is provided in the table below. The yearly efficiency loss has been calculated as per the para 37 of applied methodology AMS II-G, V.11.1</p> <table border="1"> <thead> <tr> <th>Stove model</th> <th>Efficiency in first year</th> <th>Efficiency in second year</th> <th>Efficiency in third year</th> </tr> </thead> <tbody> <tr> <td>HPN JE-01 ND'</td> <td>30.29%</td> <td>28.82%</td> <td>27.35%</td> </tr> <tr> <td>HPN-01FD'</td> <td>41.24%</td> <td>38.21%</td> <td>35.18%</td> </tr> <tr> <td>Greenway Jumbo</td> <td>29.79%</td> <td>28.40%</td> <td>27.01%</td> </tr> </tbody> </table>	Stove model	Efficiency in first year	Efficiency in second year	Efficiency in third year	HPN JE-01 ND'	30.29%	28.82%	27.35%	HPN-01FD'	41.24%	38.21%	35.18%	Greenway Jumbo	29.79%	28.40%	27.01%
Stove model	Efficiency in first year	Efficiency in second year	Efficiency in third year															
HPN JE-01 ND'	30.29%	28.82%	27.35%															
HPN-01FD'	41.24%	38.21%	35.18%															
Greenway Jumbo	29.79%	28.40%	27.01%															
Net calorific value of the non-renewable woody biomass that is substituted ( $NCV_{biomass}$ ) in TJ/Tonne	0.0156	<p>Net Calorific Value of the wood used as cooking fuel. Default value as per the applied methodology /04/.</p>																
Adjustment to account for any continued use of pre-project devices during the year y ( $\mu_y$ )	<p>HPN JE-01 ND' model= 0.9393</p> <p>HPN-01FD' model =0.9848</p> <p>Greenway Jumbo model =0.9696</p>	<p>As per sample survey, some sample reported for the continued use of traditional cookstove. Accordingly, <math>\mu_y</math> is considered and calculated for the monitoring period. During the on-site visit assessment, VVB observed discrepancy in the value which has been reported in the finding CL02, which has been successfully closed upon adjusting to a conserving value as follows.</p> <table border="1"> <tr> <td>HPNJE-01ND</td> <td>0.8939</td> </tr> <tr> <td>HPN-01FD</td> <td>0.9090</td> </tr> <tr> <td>Greenway Jumbo</td> <td>0.8939.</td> </tr> </table>	HPNJE-01ND	0.8939	HPN-01FD	0.9090	Greenway Jumbo	0.8939.										
HPNJE-01ND	0.8939																	
HPN-01FD	0.9090																	
Greenway Jumbo	0.8939.																	
Operating lifetime of the	7 years	The life of project ICS types are declared from its manufacturer and hence accepted by the																

	project device		verification team /15/16/.
	Actual date of commissioning of the project device	The date of commissioning of the project devices are mentioned in the ER sheet for each ICS (Tab: ICS wise ER calculations (Column F).)	As per sales record and project database the project devices were commissioned/sold between 22/06/2019 to 21/06/2022. This is consisted with the details considered for claiming emission reductions.
	Number of ICS distributed per household	1	As per project implementation database, 1 ICS is distributed in each household. VVB verified this during on-site interviews. This is also conservative as per the applied methodology.
	SDG3: Air quality	As provided in section D.2 of MR	VVB confirms that the value provided by the PP in the MR is deemed to be acceptable as the value is consistent with the ER sheet tab "SDG3 and SDG7". The same has been verified by VVB during the on-site assessment.
	SDG 7: Access to affordable and clean energy services	7,114 numbers	It has been confirmed that the PP has distributed 7,114 numbers of cookstoves during the period ICS between 22/06/2019 to 21/06/2022.
<p>CCIPL is able to confirm that the monitoring has been implemented in full compliance with the registered monitoring plan and all the parameters listed in the registered monitoring plan have been completely monitored.</p>			

**E.6.3. Implementation of sampling plan**

<b>Means of verification</b>	Desk review/ on-site interview
<b>Findings</b>	CAR12 has been raised and closed successfully. FAR01 has been raised
<b>Conclusion</b>	<p>According to the standard for sampling and survey /11/ and related guidelines /10/ the sampling plan was determined at the time of project registration and applied during this monitoring period as well.</p> <ul style="list-style-type: none"> <li>- Sampling method: Simple random sampling method is adopted for each type of project ICS. The sample size is determined by the requirement to achieve 90/10 in line with the methodology for annual survey. Sampling approaches may follow the Guideline "Sampling and surveys for CDM project activities and programme of activities" for calculation of sample size.</li> <li>- Data to be collected: Includes the monitored parameters <math>N_{y,i,a}</math> (Number of project devices of type i and operating in year y), <math>\mu_y</math> (Adjustment to account for any continued use of pre-project devices during the year y), and SDG 3 (Users' perception on smoke reduction and Incidence of disease)</li> <li>- Implementation plan: Annual</li> </ul> <p>During the actual monitoring period the sampling plan has been implemented as below:                  Sampling method: The sample size included all households where each type of ICS are commissioned. One ICS is distributed in one household.                  For each type of ICS, random numbers were assigned for each ICS using excel function and the sample ICS are extracted accordingly. The total sample size has been derived using equation from 'Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0. /10/. The expected proportion is considered 90% appropriately as previous survey result showed 100% operational status.</p>

Type of ICS	Population	Required sample	Actual sample
HPN JE-01 ND	3177	31	33
HPN-01FD	3876	31	33
Greenway Jumbo	61	31	33
	<b>7,114</b>	<b>93</b>	<b>99</b>

Data collected: Questionnaire based face to face survey was used by Practical action appointed team /23/ and survey results are provided in excel sheet. The operational proportion of project ICS found to be 100% and factor for continued use of pre-project device found to be 0.9393 for HPN JE-01 ND type users, 0.9848 in case of HPN-01FD users and 0.9696 for Greenway Jumbo users. Since the relative margin of error obtained is less than 10% for the monitored parameter, relative precision of the data is statistically acceptable and deemed representative of the population. The number of household using pre project devices obtained during the VVB survey is found to be less than the value obtained during the monitoring survey, therefore PP has revised the  $\mu_y$  value to be more conservative. The revised values are 0.8939 for HPN JE-01 ND type users, 0.9090 in case of HPN-01FD users and 0.8939 for Greenway Jumbo users. VVB has also observed the use of non-project cooking device in 11 households surveyed, which the household use to prepare meals along with the project ICS. The use of non-project cooking devise is found to be less frequent (5.23 meals/week/household) during the VVB survey. Therefore, the estimated emission reduction has been adjusted to account for the usage of the non-project cooking device in the households, thus complying with para 36 and 38 of CDM standard for Sampling and surveys for CDM project activities and programmes of activities.

CCIPL confirms that the sampling size and the method of onsite verification was in line with the requirements of the sampling standard.

**E.7. Compliance with the calibration frequency requirements for measuring instruments**

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

**E.8. Assessment of data and calculation of emission reductions or net removals**

**E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks**

<b>Means of verification</b>	Desk review/ on-site interview
<b>Findings</b>	CL06, CL08, CL09, CAR05, and CAR09 have been raised and closed successfully.
<b>Conclusion</b>	<p>The Baseline emissions have been calculated using the following formulae:</p> $ER_y = B_{y,savings} \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected\_fossilfuel} \times N_{y,l} \times \mu_y$ <p>Where:</p> <p><math>B_{y,savings,i,j}</math> = Quantity of woody biomass that is saved in tonnes per cookstove device of type <i>i</i> and batch <i>j</i> during year <i>y</i>. <math>B_{y,savings}</math> is calculated as following:</p> <p><math>B_{y,savings} = Bold * (1 - \eta_{old} / \eta_{new})</math>. Bold is fixed ex-ante to be 3.8 tonne/year/HH as per PDD /02/. <math>\eta_{old}</math> is also fixed ex-ante to be 10% default as per the methodology /02/. <math>\eta_{new}</math> for HPN JE-01 ND type ICS is 27.35%, for HPN-01FD type 35.18% for old stoves and 41.24% for new stoves and for Greenway Jumbo type is 27.01% which is linearly decreased following guidance as per paragraph 37(a) of the applied methodology AMS-II.G, version 11.1.</p>

- $f_{NRB,y}$  = Fraction of woody biomass that can be established as non-renewable biomass ( $f_{NRB}$ ) fixed ex-ante to be 86% calculated as per procedure outlined in tool to calculate  $f_{NRB}$  /02/.
- $NCV_{biomass}$  = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is 'air-dried')
- $EF_{projected\_fossilfuel}$  = Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers. Use a value of 64.4 t CO<sub>2</sub>/TJ
- $N_{y,i,j}$  = Number of project devices of type  $i$  and batch  $j$  operating during year  $y$ . During this monitoring period it is 7,114 as explained in section E.6.2 above.
- $\mu_y$  = Adjustment to account for any continued use of pre-project devices during the year  $y$ . As per survey this result to be 0.8939 for HPN JE-01 ND, 0.9090 for HPN-01FD users and 0.8939 for Greenway Jumbo users.

As per paragraph 29 of the applied methodology and PDD,  $B_{y,savings,i,j}$  is multiplied by a net to gross adjustment factor of 0.95 to account for leakage. Therefore,  $ER_y$  is realized during the monitoring period is 14,043 tCO<sub>2</sub>

Therefore, the total baseline emission achieved during this monitoring period is

Stove model	Baseline emission tCO <sub>2</sub>
HPN JE-01 ND	5,619
HPN-01FD (76 stoves)	154
HPN-01FD (3800 ICS)	8,162
Greenway Jumbo	107
Total	14,043

However, during the VVB survey, it has been observed that the household sampled has been using LPG and other devices for cooking other than the project ICS at the rate of 5.23 meals/household/week. It is assumed that 21 meals are prepared per household per week, therefore, the project ICS have an effective usage of only 15.77 meals/household/week, therefore the ER value (14,043) has been multiplied with an adjustment factor of 0.7509 to obtain the total emission reduction value of **10,545 tCO<sub>2</sub>e**.

CC IPL confirms that the calculation of baseline emissions have been carried out in accordance with the formulae and methods described in the registered PDD and the applied methodology.

**E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks**

<b>Means of verification</b>	Desk review/ on-site interview
<b>Findings</b>	N/A
<b>Conclusion</b>	The calculation algorithm in the methodology directly calculates emission reductions hence this is not applicable /04/.

**E.8.3. Calculation of leakage GHG emissions**

<b>Means of verification</b>	Desk review/ on-site interview
<b>Findings</b>	N/A
<b>Conclusion</b>	The Net to Gross Leakage Adjustment Factor has been included in the emission reduction calculations applying adjustment factor 0.95 as per paragraph 39 of the applied methodology.

#### E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

<b>Means of verification</b>	Desk review/ on-site interview		
<b>Findings</b>	N/A		
<b>Conclusion</b>	The emission reductions have been calculated in accordance with the requirements of the applied methodology, registered PDD and correctly reported in the monitoring report. The emission reductions achieved during the monitoring period 22/06/2021 to 21/06/2022 is 10,545 tCO <sub>2e</sub> .		
	<b>Baseline emission</b>	<b>Project emission</b>	<b>Net Reduction</b>
	10,545 tCO <sub>2</sub>	0 tCO <sub>2</sub>	10,545 tCO <sub>2</sub>
	The data presented in the monitoring report /01/ and emission reduction worksheet /03/ were assessed by reviewing in detail project documentation, collection of monitored data, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. Sufficient evidences were presented and verified by CCIPL for the reported emission reductions as listed above.		

#### E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

<b>Means of verification</b>	Desk review/ on-site interview		
<b>Findings</b>	N/A		
<b>Conclusion</b>	The emission reductions from the project for the monitoring period as reported in the monitoring report revision 1.4 of 01/09/2023 /01/ is equivalent to 10,545 tCO <sub>2e</sub> . The actual emission reductions are less than estimated emission reductions of 35,321 tCO <sub>2e</sub> during the monitoring period. The reduction of emission reductions are due to less number of ICS commissioned than estimated in the PDD.		
	The emission reduction calculations provided in the spreadsheet /03/ have been verified to be correct and in line with the final PDD /02/.		

#### E.8.6. Remarks on difference from estimated value in registered PDD

<b>Means of verification</b>	Desk review/ on-site interview		
<b>Findings</b>	N/A		
<b>Conclusion</b>	The actual emission reductions are less than estimated emission reductions during the monitoring period which is due to less number of ICS commissioned than estimated in the project design.		

#### E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

<b>Means of verification</b>	Desk review/ on-site interview		
<b>Findings</b>	N/A		
<b>Conclusion</b>	<b>GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012</b>	<b>GHG emission reductions or net GHG removals by sinks reported from 1 January 2013 onwards</b>	
	NA	10,545 tCO <sub>2e</sub>	
	Year-wise break-up of emission reductions:		
	<b>Year</b>	<b>Emission Reductions (tCO<sub>2e</sub>)</b>	
	22/06/2021 to 31/12/2021	5,576	
	01/01/2022 to 21/06/2022	4,969	
	The emission reduction calculations provided in the spreadsheet /03/ have been		



	verified to be correct and in line with the final PDD /02/, also the values are consistently reported in the MR for this monitoring period.
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**E.9. Assessment of reported sustainable development co-benefits**

<b>Means of verification</b>	Desk review/ on-site interview																									
<b>Findings</b>	No findings has been raised																									
<b>Conclusion</b>	<table border="1" style="width: 100%;"> <thead> <tr> <th style="background-color: #00A0C0;">Data variable</th> <th style="background-color: #00A0C0;">Source of Data</th> <th style="background-color: #00A0C0;">Reported value for the project period</th> </tr> </thead> <tbody> <tr> <td>Users' perception on smoke reduction and Incidence of disease</td> <td>Survey results</td> <td>94% users responded to perceive drastic reduction in smoke compared to baseline scenario and 4% responded to reduce to some extent.  96% users responded to reduce respiratory problem. 96% responded positively to reduce eye and 98% responded to reduction in cough.</td> </tr> <tr> <td colspan="3" style="background-color: #00A0C0;"><b>Assessment</b></td> </tr> <tr> <td colspan="3">As per sample survey 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.</td> </tr> <tr> <th style="background-color: #00A0C0;">Data variable</th> <th style="background-color: #00A0C0;">Source of Data</th> <th style="background-color: #00A0C0;">Reported value for the project period</th> </tr> <tr> <td>Access to affordable and clean energy services</td> <td>Project developers record /20/, /03/</td> <td>7,114 users are accessed to clean and affordable energy services.</td> </tr> <tr> <td colspan="3" style="background-color: #00A0C0;"><b>Assessment</b></td> </tr> <tr> <td colspan="3">In line with the monitoring plan, 7,114 project ICS are installed and as per sample survey entire project ICS are in operation. Hence, 7,114 project users are accessed to affordable and clean energy services.</td> </tr> </tbody> </table> <p><b>Continuous grievance mechanism:</b> The PP have distributed grievance register to its NGO partners in each district in Nepal. Register copies verified during site visit. Further distributed partners have the extended team in villages where the ICS are disseminated and technicians are appointed, who takes up any complain related to usage &amp; operation of ICS. Also, the NGO members visit villages at regular intervals. The Practical Action head office in Kathmandu, Nepal, has appointed in-charge to look after any grievances received from the HH users.</p> <p>As per records made available to the verification team and discussion with end users, there was no grievance received during this monitoring period. It is also understood, the ICS are highly efficient with long life which are expected not to have any issue during the warranty period of first five years.</p> <p>CC IPL confirms that monitoring of all the sustainable development monitoring parameters during this monitoring period is in line with the SD monitoring plan and are consistent with site visit observations and interview with end users.</p>		Data variable	Source of Data	Reported value for the project period	Users' perception on smoke reduction and Incidence of disease	Survey results	94% users responded to perceive drastic reduction in smoke compared to baseline scenario and 4% responded to reduce to some extent.  96% users responded to reduce respiratory problem. 96% responded positively to reduce eye and 98% responded to reduction in cough.	<b>Assessment</b>			As per sample survey 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	Access to affordable and clean energy services	Project developers record /20/, /03/	7,114 users are accessed to clean and affordable energy services.	<b>Assessment</b>			In line with the monitoring plan, 7,114 project ICS are installed and as per sample survey entire project ICS are in operation. Hence, 7,114 project users are accessed to affordable and clean energy services.		
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<b>Assessment</b>																										
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**E.10. Global stakeholder consultation**

<b>Means of verification</b>	Not Applicable
<b>Findings</b>	Not Applicable.
<b>Conclusion</b>	Not Applicable.

**SECTION F. Internal quality control**

The final verification report passed a technical review before being submitted to the client for forward submission to GS. A technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM validation and verification performed the technical review.

**SECTION G. Verification opinion**

Carbon Check (India) Private Ltd. (CCIPL) has performed the 3<sup>rd</sup> periodic verification of the GS Project Activity "Sustainable Market Development of Improved cooking in rural Nepal by Practical Action" in Nepal having GS reference number GS 10788.

The verification team assigned by the VVB concludes that the project activity as described in the registered PDD (version 1.3 of 03/11/2021) /02/ and the monitoring report (version 1.4 dated 01/09/2023) /01/, meets all relevant GS4GG requirements for project activity and UNFCCC requirements. The verification has been conducted in-line with the GS4GG requirements and requirements of VVS for CDM project activities (version 03.0) /09/.

**Verification methodology and process:**

The verification team confirms the contractual relationship signed on 06/02/2023 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 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 /05/ and constitutes the review and completion of the following steps:

- Reviewing the registered PDD (version 1.3; dated 03/11/2021) /02/;
- Receipt of the MR (version 1.0 dated 27/01/2023 and other versions) /01/;
- Desk review of the MR version 1.4 dated 01/09/2023 /01/ and other relevant documents;
- Review of the applied monitoring methodology (AMS-II.G, version 11.1) /04/;
- Review of any CMP and EB decisions, clarifications and guidance;
- On-site assessment (15/03/2023-16/03/2023);
- Resolution of CARs and CLs raised during verification;
- Issuance of Verification Report

VVB has raised 09 clarification requests, 12 Corrective action requests which are closed successfully. VVB also raised 01 Forward action request during this verification. (provided in appendix 4 of this document)

The project activity was correctly implemented according to the selected monitoring methodology and registered PDD /2/. Through document review and on-site visit assessment, the verification team confirms that the project activity has resulted in 10,545 tCO<sub>2</sub>e emission reductions during this second monitoring period.

The break-up of emission reduction from 22/06/2021 to 21/06/2022 as verified during the course of verification are as below:

Vintage	Emission reductions (tCO <sub>2</sub> e)
22/06/2021 to 31/12/2021	5,576
01/01/2022 to 21/06/2022	4,969

CCIPL therefore pleased to issue a positive verification opinion expressed in the attached Certification statement.

**SECTION H. Certification statement**

&gt;&gt;


It is CCIPL's opinion that the GHG emission reductions stated in the monitoring report, version 1.4 dated 001/09//2023 for project activity, "Sustainable Market Development of Improved cooking in rural Nepal by Practical Action" for period 22/06/2021 to 21/06/2022 (Inclusive of both the dates) are fairly stated. The GHG emission reductions were calculated correctly based on the approved monitoring methodology, AMS-II.G, version 11.1. Hence, CCIPL able to certify that the emission reductions from the project during the monitoring period 22/06/2021 to 21/06/2022 (Inclusive of both the dates) amount to 10,545 tCO<sub>2</sub>e.

## Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Pvt. Ltd.
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CDM-PCP	Clean Development Mechanism Project Cycle Procedure
CDM-PS	Clean Development Mechanism Project Standard
CDM-VVS	Clean Development Mechanism Validation and Verification Standard
CH <sub>4</sub>	Methane
CL	Clarification Request
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reductions
ER	External Resources
ERPA	Emission Reduction Purchase Agreement
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GS4GG	Gold Standard for Global Goals
GWP	Global Warming Potential
ICS	Improved Cooking Stoves
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Country
LoA	Letter of Approval
LSC	Local Stakeholder Consultation
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-governmental Organization
NRB	Non-renewable Biomass
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Participant(s)
Ref.	Document Reference
SD	Sustainability Development
SDG	Sustainable Development Goals
SMP	Sustainability Monitoring Plan
SS(s)	Sectoral Scope(s)

UNFCCC	United Nations Framework Convention on Climate Change
VER	Voluntary Emission Reduction
VNV	Value Network Ventures Advisory Services Pte. Ltd.
VVB	Validation and Verification Body
VVS	Validation and verification standard

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



**Carbon**  
CHECK

**Carbon Check (India) Private Limited**

*Certificate of Competency*

**Ms. Aparna Choudhary**

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 checked="" type="checkbox"/> TA 13.2
<input type="checkbox"/> TA 14.1	<input type="checkbox"/> TA 15.1			

<p><b>Issue Date</b></p> <p>03<sup>rd</sup> May 2023</p>	<p><b>Expiry Date</b></p> <p>04<sup>th</sup> May 2024</p>
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 <hr/> <p><b>Mr. Vikash Kumar Singh</b> Compliance Officer</p>	 <hr/> <p><b>Mr. Amit Anand</b> 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. Kiran K V**

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 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 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 checked="" type="checkbox"/> TA 13.2 |
| <input type="checkbox"/> TA 14.1 | <input type="checkbox"/> TA 15.1           |                                  |  |   |

Issue Date

1<sup>st</sup> January 2023

Expiry Date

31<sup>st</sup> December 2023

Mr. Vikash Kumar Singh  
Compliance Officer

Mr. Amit Anand  
CEO



## Carbon Check (India) Private Limited

### Certificate of Competency

#### Prasan Karmacharya

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

03<sup>rd</sup> May 2023

Expiry Date

02<sup>nd</sup> May 2024

**Mr. Vikash Kumar Singh**  
Compliance Officer

**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/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 India and Sri Lanka

*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**  
1<sup>st</sup> January 2023

**Expiry Date**  
31<sup>st</sup> December 2023

**Mr. Vikash Kumar Singh**  
Compliance Officer

**Mr. Amit Anand**  
CEO

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
01	VNV	Monitoring report for the project activity 'Sustainable Market Development of Improved cooking in rural Nepal by Practical Action' covering period 22/06/2020 to 21/06/2021 a. Initial MR b. Final MR	a. Version 01 of 27/01/2023 b. version1.4 dated 01/09/2023	PP
02	VNV	PDD for the project activity 'Sustainable Market Development of Improved cooking in rural Nepal by Practical Action'	Version 1.3 of 03/11/2021	PP
03	VNV	Emission reduction worksheet 'Nepal ICS ER monitored- MP 03_GS-final'		PP
04	UNFCCC	Small-scale Methodology AMS-II.G 'Energy efficiency measures in thermal applications of non-renewable biomass'	Version 11.1	Publicly available
05	Gold Standard	Gold Standard for the Global Goals Principles & Requirements	Version 1.2 of October 2019	Publicly available
06	Gold Standard	Gold Standard for the Global Goals CS Activity Requirements	Version 1.2 of October 2019	Publicly available
07	CC IPL	Validation report for the project 'Sustainable Market Development of Improved cooking in rural Nepal by Practical Action'	Version 1.1 of 10/06/2021	VVB
08	VNV & Practical Action	Agreement for transaction of carbon credit from the project activity 'Sustainable Market Development of Improved cooking in rural Nepal by Practical Action'	Agreement copy	PP
09	UNFCCC	CDM validation and verification standard	Version 03 of 09/09/2021	Publicly available
10	UNFCCC	Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities	Ver. 4.0 (EB86, Annex 4)	Publicly available
11	UNFCCC	Standard for Sampling and surveys for CDM project activities and programmes of activities	Version 09	Publicly available
12	UNFCCC	LDC Country Information	<a href="http://unfccc.int/cooperation_and_support/ldc/items/3097.php">http://unfccc.int/cooperation_and_support/ldc/items/3097.php</a>	Publicly available
13	UNFCCC	Guideline: Application of materiality in verifications	Version 2	Publicly available
14	Gold Standard	COVID-19: Interim Measures		Publicly available
15	Greenway Grameen Infra Pvt. Ltd.	Technical specification of ICS model 'Greenway Jumbo Stoves'		PP
16	Husk Power Nepal Pvt. Ltd.	Technical specification of ICS model 'HPN JE-01 ND' & 'HPN-01FD'		PP
17	End user agreement	Sample copies of end user agreement between Practical Action and end user/commissioning certificate	Agreement copies	PP
18	Practical action	Proof of employment		PP
19	Practical Action	Maintenance forms		
20	Practical Action	Grievance register		PP

**CDM-VCR-FORM**

21	VNV	Random sample selection evidence		
22	Practical action	Enumerator training records		
23	Practical action	Project ownership evidence		
24	VNV	MP 3 survey report		
25	VNV	Project database		
26	VNV	Sample survey form (monitoring survey)		

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

**Table 1: Forward action request from previous verification.**

<b>FAR ID</b>	01	<b>Section No.</b>		<b>Date:</b> 28/06/2022
<b>Description of FAR</b>				
The UNFCCC sampling and survey guidelines, version 04, recommends data processing and report generation in clause 9.4. PP is requested to prepare a Survey Report compiling information and aligning with sampling and survey guidelines from next monitoring for improving QA/QC. The verifying entity shall check the same in next verification.				
<b>Project participant response</b>				<b>Date:</b> 17/05/2023
<i>As per the raised FAR, PP has prepared a survey report for the current monitoring period</i>				
<b>Documentation provided by project participant</b>				
<i>Nepal GS ICS MP03 Survey report</i>				
<b>VVB assessment</b>				<b>Date:</b> 28/06/2023
PP has provided the survey report of the current monitoring period to the VVB/24/ and the same has been reviewed and confirm that the report contains information on the sampling and survey guideline and the provided information is in line with the applicable PDD, and UNFCC sampling and survey guideline.				
Thus, the FAR is closed.				

**Table 2: Clarification requests**

<b>CL ID</b>	01	<b>Section no.</b>		<b>KPI</b>	<b>Date:</b> 16/05/2023
<b>Description of CL</b>					
As per the GS monitoring report template, the project representative is the official focal point for the project, which may also be the project developer. In the GS project registry, the project developer is given as "Value Network Venture Advisory pvt ltd which is also the party with whom the contract has been signed for the current verification service by VVB. Whereas, PP has provided the project representative as "Mr. Sandeep Roy Choudhary" in the KPI table of the MR. PP is requested to clarify the discrepancy.					
<b>Project participant response</b>					<b>Date:</b> 17/05/2023
PP has corrected the typo in the revised MR.					
<b>Documentation provided by CME</b>					
PerfCert_V1.1-Monitoring-Report_MP 03					
<b>DOE assessment</b>					<b>Date:</b> 28/06/2023
It has been observed that the PP has revised the KPI table of the MR and has mentioned the project representative as "Value network Venture Advisory pvt ltd" which is consistent with the GS registry and the contract with VVB.					
Thus, the finding is closed.					

<b>CL ID</b>	02	<b>Section no.</b>	D.2	<b>Date :</b> 16/05/2023
<b>Description of CL</b>				

It has been observed that PP has chosen a sample size of 33 households for each stove model (3 in total) for the determination of the parameter  $\mu_y$  (Adjustment to account for any continued use of pre project devices during the year y). From the survey, each household is given a value of 1 if only ICS is being used in the project scenario and a value of 0.5 is given for a household who uses both ICS and baseline traditional stove in the project scenario.

During the on-site visit, VVB selected 11 samples from the total population of 99 stoves (33 per stove model) and sampled 4 household each for the stoves HPNJE-01ND and Greenway Jumbo and 3 HH for HPN01FD. Among the sample surveyed, VVB has observed that 1 household from each Stove model uses traditional baseline stoves along with project ICS in the project scenario providing an average  $\mu_y$  value lower than the value provided by PP. Please refer to the table below.

Stove	Sample size of PP	No of households using both baseline stove and project stove	$\mu_y$	VVB sample	No of household using booth baseline stove and project ICS	$\mu_y$	% discrepancy
HPNJE-01ND	33	4	<b>0.9393</b>	4	1	<b>0.875</b>	<b>7.34</b>
HPN-01FD	33	1	<b>0.9843</b>	3	1	<b>0.833</b>	<b>18.16</b>
Greenway Jumbo	33	2	<b>0.9677</b>	4	1	<b>0.875</b>	<b>7.4</b>

PP is requested to clarify on the discrepancy in the value produced through VVB sample survey and PP sample survey and how the value has been applied conservatively.

**Project participant response** **Date: 17/05/2023**

PP would like to clarify that monitoring survey took place between 01/06/2022 till 10/06/2022 and during the survey the users had mentioned not using the baseline stove. However, to be more conservative we have revised the usage rate based on the responses provided to VVB and revised the ERs accordingly.

**Documentation provided by CME**

1. PerfCert\_V1.1-Monitoring-Report\_MP 03
2. Nepal ICS ER monitored- MP 03\_GS-final

**DOE assessment** **Date: 28/06/2023**

It has been observed that PP has revised the value of parameter " $\mu_y$ " in both MR and excel sheet. However, the following observations require further clarification.

1. PP is requested to clarify how the adjustment in the ER value has been made based on the discrepancy found in the value of the parameter  $\mu_y$  between the PP sample and VVB samples.

2. On comparing the initial ER sheet and updated ER sheet, it has been observed that some of the households (Tab: sample survey, Column "p") which responded to the question "Do you use your traditional (baseline) cookstove also?" as "No" in the initial ER sheet, has been marked as "yes" in the updated ER sheet (households in cell P6, P22,P42, P45, P53, P54, P57, P80, P85, P96, P101, and P105). PP to clarify the discrepancy in the survey records.

Thus, the finding is open

**Project participant response** **Date: 04/07/2023**

1. PP would like to clarify that the ER value has been reduced by reducing the usage rate to be conservative and also taking account that the precision of error is well below 10%. The usage rate has been reduced to 90% or less to be conservative.
2. The responses have been revised and updated back as per the initial responses by the users. Instead a separate column has been now introduced to reduce the usage rate and be conservative and the same has been accounted for the ER calculations as well. The same has been mentioned in the revised MR as well.

**Documentation provided by CME**

1. PerfCert\_V1.1-Monitoring-Report\_MP 03
2. Nepal ICS ER monitored- MP 03\_GS

**DOE assessment** **Date: 17/07/2023**

The PP has added an additional column "AD" in the ER sheet "Nepal ICS ER monitored- MP 03\_GS" where additional HH samples were represented with the use of baseline stove in the project scenario and as a

result, the value of Uy has been revised as follows.

- HPNJE-01ND – 0.9090
- HPN-01FD – 0.9090
- Greenway Jumbo – 0.8939.

The approach is deemed acceptable as the value has been derived from the PP samples that follows the Confidence and precision level as required, while the VVB samples are based on acceptance sampling and the confidence and precision level (90/10) does not meet the methodology requirement (Para 46 of CDM methodology AMS-II.G version 11.1). The ER value has been made conservative by the application of revised value as per the para 38 of CDM standard for Sampling and surveys for CDM project activities and programmes of activities version 09.0

Thus, the finding is closed.

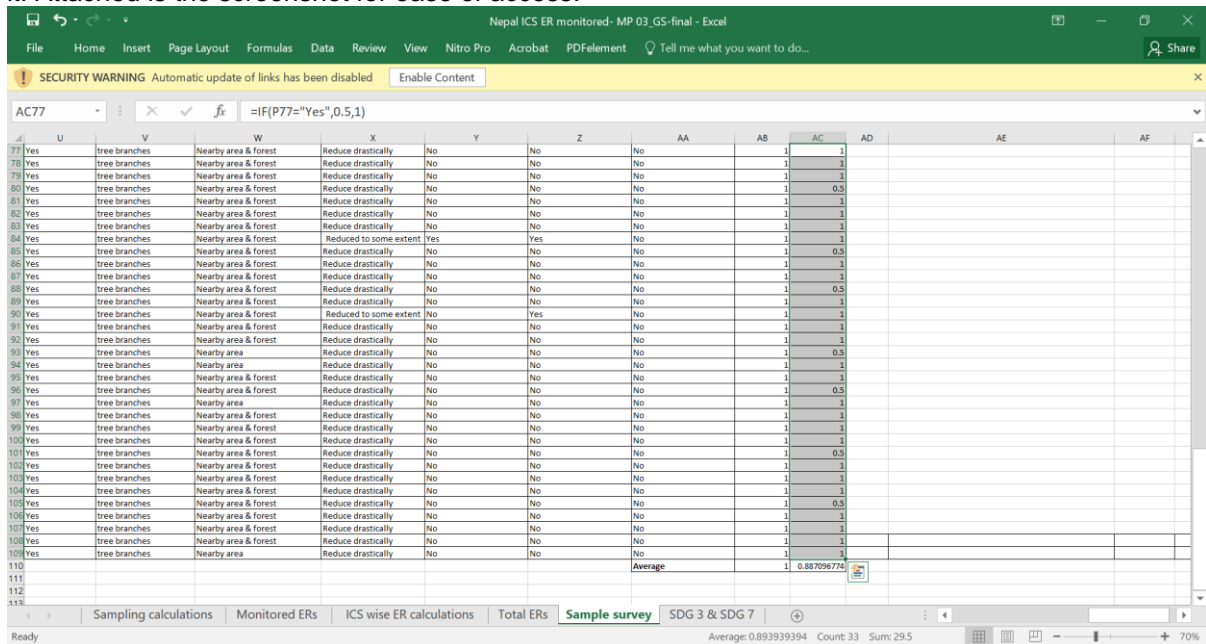
**CL ID** 03 **Section no.** ER sheet **Date:** 16/05/2023

**Description of CL**

Based on the review of the ER spreadsheet, sheet "Sample survey" column AC, VVB has observed that for the calculation of the parameter uy, the no of HH included in the calculation for average value is 33, 32, and 31 for the stoves HPNJE-01ND, HPN-01FD, and Greenway Jumbo respectively from the total sample size of 33 for each stove. PP is requested to clarify the difference in the number of HH included in the calculation for the 3 different stoves.

**Project participant response** **Date:** 17/05/2023

PP would like to request that please check the count in the ER sheet, tab-sample survey and not the sum of it. Attached is the screenshot for ease of access.



**Documentation provided by CME**

**DOE assessment** **Date:** 28/06/2023

In the ER sheet tab "Sample survey", column AC, for the calculation of average  $\mu_{(y)}$  value, PP has omitted the data in the cell AC72, AC108, AC109.

PP is requested to clarify why the cells has been omitted in the calculation.

Thus, the finding is open.

**Project participant response** **Date: 04/07/2023**

The cells have been now included and the error has been now rectified in the revised ER sheet and MR.

**Documentation provided by CME**

1. PerfCert\_V1.1-Monitoring-Report\_MP 03
2. Nepal ICS ER monitored- MP 03\_GS

**DOE assessment** **Date: 17/07/2023**

Based on the review of the revised ER sheet, it has been confirmed that all the missing cells has been included in the ER calculation.

Thus, the finding is closed.

**CL ID** 04 **Section no.** B.4 **Date: 16/05/2023**

**Description of CL**

In the section B.4 of PDD v.1.3, PP has identified the baseline as the use of non-renewable biomass, and has mentioned that " The use of other fossil fuels like kerosene and LPG is insignificant", also as per the applicable methodology AMS-II.G v.11.1, in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.

Also, based on the review of the ER sheet "Nepal ICS ER monitored- MP 03\_GS-final", sheet "sample survey:, column "R", no household were shown using any other stove or cooking instrument apart from project stove during the current monitoring period , But in the column "O", the number of meals prepared using project stoves per week is found to be less than 21 for most of the samples.

During the on-site visit, among the 11 samples visited by the VVB, use of LPG has been identified in 10 households and rice cooker in one household. Some of the households has been using the LPG even before the project start date. Based on the assessment of the survey response provided by sampled households, it has been observed that on an average, 5.23 meals per household in a week has been prepared in LPG and other cooking devices. Assuming that 21 meals are prepared per week per household, PP is requested to clarify how the use of non project device for cooking has been adjusted in the ER calculation.

**Project participant response** **Date: 17/05/2023**

PP has now adjusted the ER calculations based on the use of non-project devices and no. of meals and has decreased the ERs by multiplying it by a conservative factor i.e. 0.7509 which was deduced from assuming 5.23 meals per household in a week prepared using LPG and other cooking device like rice cooker.

Therefore, the no. of meals cooked using non-project device for 11 samples is 57.53. Further, the no. of meals using project device would be 173. 47 (which comes by subtracting 11\*21= 231 meals using project device from 57.53 meals using non-project devices). Therefore, 173.47 divided by the 231 meals comes out to be 0.7509 which has been multiplied with the ERs to be conservative. The same amount of ERs will be

claimed by the PP. Refer to "Total ER" tab of the ER sheet.	
<b>Documentation provided by CME</b>	
Revised MR and ER sheet	
<b>DOE assessment</b>	<b>Date: 28/06/2023</b>
As per para 36 and 38(b) of CDM standard for Sampling and surveys for CDM project activities and programmes of activities, the acceptance number is found to be more than c, therefore the emission reduction has been revised to be more conservative. The approach used by PP is deemed to be acceptable to VVB.	
Thus, the finding is closed.	

<b>CL ID</b>	05	<b>Section no.</b>	D.4	<b>Date: 16/05/2023</b>
<b>Description of CL</b>				
In the section D.4, page number 24 of MR. PP has provided the value for p (expected proportion as 0.9. In the footnote 2 provided in the page, it has been mentioned that "The expected proportion has been taken as 0.9 for the second monitoring period". PP is requested to revise the statement as the current monitoring period number is 3. Also pp is requested to clarify how the value is applicable for the current monitoring period and add the justification as a footnote.				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
PP has rectified the typo in the revised MR. The expected proportion has been taken as 0.9 as per the requirement and the same has been mentioned and approved in registered PDD				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
It has been observed that PP has revised the statement provided in the footnote provided in the section D.4 of the MR and provided the justification for its applicability in the current monitoring period as it is in compliance with the PDD.				
Thus, the finding is closed.				

<b>CL ID</b>	06	<b>Section no.</b>	E.1	<b>Date: 16/05/2023</b>
<b>Description of CL</b>				
In the section E.1 of MR, the value for parameter Uy for the stove Greenway Jumbo is given as 0.97 which is also used in the ER sheet for the calculation, while the value provided in the section D.2 of MR is 0.9677. PP is requested to clarify how the value has been conservatively used.				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
The usage rate has been now updated in both MR and ER, it is taken conservatively as rounding off to four decimal places for ease of calculation.				
<b>Documentation provided by CME</b>				
<ol style="list-style-type: none"> <li>1. PerfCert_V1.1-Monitoring-Report_MP 03</li> <li>2. Nepal ICS ER monitored- MP 03_GS-final</li> </ol>				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
It has been observed that the PP has revised the value of the parameter Uy in the MR and the value has been found to be consistent between ER and MR.				
Thus, the finding is closed.				

<b>CL ID</b>	07	<b>Section no.</b>	B.6.1	<b>Date: 16/05/2023</b>
<b>Description of CL</b>				
As per the section B.6.1 of the PDD v.1.3, PP has identified 7 parameters for the monitoring of SDG3, namely N1 (number of respondent who said that smoke reduced drastically), N2 (Number of respondent who said that smoke reduced to some extent), N3 (Number of respondent who said that they did not visit hospital for breathing related illness, N4 (Number of respondent who said that they visit the hospital or faced breathing related issues, Nr (number of respondent not faced respiratory problem, Nc (Number of respondent not facing cough problem), Ni (Number of respondent not facing itchy eye incidence). However, as described in the section A.1 (E.2 as per template) of MR, PP has not considered parameter N3 and N4 for the monitoring of SDG in the current monitoring period. PP is requested to provide a clarification in the discrepancy in the monitoring procedure observed.				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
The perception of any incidence of disease has been linked to the no. of times HH user visited hospital due				



to breathing/cough/eye infection related problems. Please refer to the monitoring parameter i.e., air quality in section D.2 of the MR. The same has been approved during previous verifications as well. PP has also reported the same in ER calculation sheet tab-Sample survey under column Y, Z, AA

**Documentation provided by CME**

**DOE assessment** **Date: 28/06/2023**

Based on the review of the PP's response as well as the approach used, which has been approved in the previous verification. Hence, this justification is deemed to be acceptable by the VVB.

Thus, the finding is closed.

<b>CL ID</b>	08	<b>Section no.</b>	D.2	<b>Date: 16/05/2023</b>
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**Description of CL**

In the section D.2 of MR, the value for the parameter  $N_{y,l,a}$  is given as 3876, 61, and 3177 for the stoves HPN-01FD, Greenway Jumbo, and HPNJE-01ND respectively.

In section B.1, PP has mentioned that "During the current MP, additional 3,800 new HPN-01FD stoves were distributed.. In the section E.1, PP has calculated the ER for the 3800 new HPN-01FD ICS and 76 old HPN-01FD ICS separately.

Based on the review of the project database sheet, VVB has observed that the 1885 stoves were distributed on 2022 alone during the dates from 13/01/2022 to 23/05/2022. Other stoves were distributed from June 2021 to December 2021. PP is requested to clarify how the duration prior to the start date of operation has been excluded from the monitoring period duration for the emission reduction calculation for these new stoves.

Moreover, only the date of sale of these stoves are provided in the database, PP is requested to clarify how the actual date of installation/start date of operation has been determined

**Project participant response** **Date: 17/05/2023**

Based on days if we calculate then ERs are coming high (refer to tab ICS wise ER calculations in ER calculation sheet) i.e., 20,536 but actual ERs we have considered is 14,111. Hence, to be conservative we are not using day wise calculations. Also, the date of sale is the day when the carbon waiver was signed, and installation was done.

**Documentation provided by CME**

-

**DOE assessment** **Date: 28/06/2023**

VVB has reviewed the project database, ER sheet, Carbon waiver form/commissioning certificate and has observed the following.

1. ER calculation based on operational days of individual stoves is found to be less conservative than approach used by PP (Multiplying total stoves distributed with ER per ICS), therefore the approach used by PP is deemed to be acceptable.
2. The date of sale mentioned in the ER sheet is also the date in which carbon waiver has been signed and the ICS was installed in the household.

Thus, the finding is closed.

<b>CL ID</b>	09	<b>Section no.</b>	Survey sheet	<b>Date: 16/05/2023</b>
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**Description of CL**

In the column "O" in tab "Sample survey", household response to the question "How many meals did you prepared using project cookstove last week or last month?" has been added. From the analysis of the responses, the following observations require clarifications,

1. It is not clear if the number of meals recorded is per week or month
2. the number of meals cooked per day per household has not been provided
3. considering that 3 meals are cooked per day, total no of 21 meals shall be accounted for one household per week. However, from the review of information provided in the column, it has been observed that the total number of meals cooked per household is less than 21 meals on the project ICS. In view of this, PP shall explain the stoves used to cook the remaining meals and how they have been accounted in calculation of ER.

**Project participant response** **Date: 02/08/2023**

1. The no. of meals recorded is per week and the same has been revised now in the question mentioned in the ER sheet.
2. PP has asked only the no. of meals cooked by the user in a week during the monitoring survey and the same has been approved during the previous verifications as well.

<p>3. PP would like to clarify that it is not necessary that the user will cook three times a day only. Sometimes they can cook only once or twice a day by cooking a major amount of the meal (rice or vegetable- rice being a staple food in Nepal) at once or twice. It is the no. of times which user felt they cook in a week and that has been mentioned as per the user's response only.</p>	
<p><b>Documentation provided by CME</b></p>	
<p>-</p>	
<p><b>DOE assessment</b></p>	<p><b>Date: 07/08/2023</b></p>
<p>1. Okay, issued closed.                  2. The justification is not acceptable as precedence cannot be a justification of this issue. This part of CL is open.                  3. The justification is not acceptable. PP shall explain the stoves used to cook the remaining meals and how they have been accounted in calculation of ER. This part of CL is open.</p>	
<p><b>Project participant response</b></p>	<p><b>Date:21/08/2023</b></p>
<p>2. PP would like to clarify that from the next monitoring period, the survey will include a question on the no. of meals cooked per day. It is requested if a FAR can be raised for the same by the VVB.                  3. PP has now adjusted the ER calculations based on the use of non-project devices and no. of meals and has decreased the ERs by multiplying it by a conservative factor i.e. 0.7509 which was deduced from assuming 5.23 meals per household in a week prepared using LPG and other cooking device like rice cooker. Therefore, the no. of meals cooked using non-project device for 11 samples is 57.53. Further, the no. of meals using project device would be 173. 47 (which comes by subtracting 11*21= 231 meals using project device from 57.53 meals using non-project devices). Therefore, 173.47 divided by the 231 meals comes out to be 0.7509 which has been multiplied with the ERs to be conservative. The same amount of ERs will be claimed by the PP. Refer to "Total ER" tab of the ER sheet.</p>	
<p><b>DOE assessment</b></p>	<p><b>Date: 31/08/2023</b></p>
<p>2. FAR has been raised.                  3. PP based on the assumption that the remaining meals are cooked using non-project stoves, have provided the justification above, which is deemed to be acceptable to VVB. ER value has been adjusted to account for the use of non-project stoves)                  Thus, finding is closed</p>	

**Table 3: Corrective action requests**

<b>CAR ID</b>	01	<b>Section no.</b>	KPI	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
<p>In the table 1 of the MR, PP is requested to clearly summarize the GS products and certified impact statement which are requested for issuance as per the monitoring plan in the design certified PDD. In the table 2 of MR, PP is only requested to add the details of only the products identified in the table 1.</p>				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
<p>The table-1 has now been updated in the revised MR. Table-2 has already mention the products identified and the same has been approved in previous verifications as well.</p>				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
<p>It has been observed that PP has revised the table 1 and table 2 and has been made consistent with the PDD.                   Thus, the finding is closed.</p>				
<b>CAR ID</b>	02	<b>Section no.</b>	KPI	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
<p>It has been observed that the statement provided for SDG impacts in the table 1 of the MR is inconsistent with the SDG impact provided in the table 1 of PDD. PP is requested to maintain the consistency</p>				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
<p>The table-1 has now been updated in the revised MR.</p>				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
<p>It has been observed that the statement provided for SDG impact in the MR has been made consistent with PDD.</p>				

Thus, the finding is closed.

<b>CAR ID</b>	03	<b>Section no.</b>	A.4	<b>Date:</b> 16/05/2023
<b>Description of CAR</b>				
<p>The section A.4 of the MR is requested to be revised as per the following comments.</p> <ol style="list-style-type: none"> <li>22/06/2019 is the start date of the project activity. In the MR, it is given as crediting period.</li> <li>As per the PDD v.1.3, section C.2.2, the crediting period is renewable. This information is not provided in MR.</li> <li>As per the GS monitoring report template guide, the state date and end date of the crediting period should be provided in the format DD/MM/YYYY</li> </ol>				
<b>Project participant response</b>				<b>Date:</b> 17/05/2023
<ol style="list-style-type: none"> <li>PP has rectified the typo.</li> <li>PP has updated the section.</li> <li>The format is already in DD/MM/YYYY in section A.4.</li> </ol>				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date:</b> 28/06/2023
<p>It has been observed that PP has revised the MR considering all the above points and the information in section A.4 of MR has been made consistent with the GS monitoring report template and PDD.</p> <p>Thus, the finding is closed</p>				

<b>CAR ID</b>	04	<b>Section no.</b>	B.1	<b>Date:</b> 16/05/2023
<b>Description of CAR</b>				
<p>In the section B.1 of MR, PP has provided the total estimated target of ICS distribution and the ICS distributed during this monitoring period. PP is also requested to mention the total number of ICS distributed till the end of the last monitoring period.</p> <p>Moreover, PP is also requested to add the actual energy saving achieved during this MP from the total stoves in operational and demonstrate whether the annual energy savings is below 180 GWhth or 60 GWh</p>				
<b>Project participant response</b>				<b>Date:</b> 17/05/2023
<p>PP has updated the section in revised MR. PP would like to explain that please refer to the ER sheet tab monitored ERs cell H30 to verify threshold limit demonstration for small scale.</p>				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03, ER sheet				
<b>DOE assessment</b>				<b>Date:</b> 28/06/2023
<p>It has been observed that PP has provide a statement in the section B.1 of the MR that "There were total 3134 ICS operational till last monitoring period", while the value is found to be 3314 in the section D.3 of MR. PP is requested to correct/clarify the inconsistency.</p> <p>Thus, the finding is open.</p>				
<b>Project participant response</b>				<b>Date:</b> 04/07/2023
<p>The typo error has been now rectified.</p>				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date:</b> 17/07/2023
<p>PP has provided the information on the number of stoves that are distributed in the last monitoring period in the section B.1 of the MR, the value is found to be consistent with other section of the MR and last monitoring/verification report.</p> <p>Based on the review of the ER sheet, Tab " Monitored ERs", ell H30, it has been confirmed that the actual energy saving of the project activity per year is less than the threshold value of 180 GWhth.</p> <p>Thus, the finding is closed</p>				

<b>CAR ID</b>	05	<b>Section no.</b>	D.2	<b>Date:</b> 16/05/2023
<b>Description of CAR</b>				
<p>In the section D.2 of the MR, PP is requested to provide the reference to excel sheet (including sheet name, cell number) as the source for the parameter <math>N_{y,l,a}</math>, <math>\mu_y</math>, Date of commissioning of project device (column</p>				

number), N <sub>d,HH</sub> , SDG3, SDG7.
<b>Project participant response</b> <span style="float: right;"><b>Date: 17/05/2023</b></span>
The references has been now added in the revised MR.
<b>Documentation provided by CME</b>
PerfCert_V1.1-Monitoring-Report_MP 03
<b>DOE assessment</b> <span style="float: right;"><b>Date: 28/06/2023</b></span>
It has been observed that the reference to the excel sheet has been provided for the above mentioned parameter in the section .2 of MR.
Thus, the finding is closed.

<b>CAR ID</b>	06	<b>Section no.</b>	D.3	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
It has been observed that the value of parameter N <sub>via</sub> has been increased in the current monitoring period compared to last monitoring period. As per the GS monitoring template guideline, in section D.3 of the GS monitoring report, PP is requested to add a short explanation for any values that have increased.				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
PP has updated the section in the revised MR				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
It has been observed that the PP has added the statement regarding the increase in the value of parameter N <sub>via</sub> in the current monitoring period compared to the last monitoring period. The justification provided is deemed to be acceptable to the VVB.				
Thus, the finding is closed.				

<b>CAR ID</b>	07	<b>Section no.</b>	E.1	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
It has been observed that in the section E.1 of the MR, PP has provided the baseline value only for SDG 13. PP is requested to add the baseline value of each SDG under their respective heading.				
Moreover, PP is requested to revisit the section E.2 and A.1 of the MR. the section E.2 the baseline estimate of SDG3 and 7 has been provided while in the section A.1 is provided incorrectly. Moreover, the baseline estimate provided for SDG 7 in the section E.2 of MR is observed to the baseline estimate for SDG 3. PP is requested to revise the statement and add the same under section E.1				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
PP has revised the statement and updated the section in the revised MR				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
As per the GS Monitoring report template guideline, in the section E.1 of MR, “Under a heading for each SDG, provide sample calculations for all formulae used to calculate/estimate baseline values (SDG 13 - emissions or net baseline removals), applying actual values. Clearly reference the spreadsheets used (including sheet names as necessary) and supply them as supporting evidence to the monitoring report. The aim is to direct your assurance providers to the information as quickly as possible, which will result in a quicker review process”, therefore PP is requested to provide the actual baseline of SDG 3 and SDG 7 in the section E.1 of the MR.				
Moreover, as per the GS monitoring report template guideline “Under a heading for each SDG, provide sample calculations for all formulae used to calculate/estimate project values (SDG 13 - emissions or net removals), applying actual values. Clearly reference the spreadsheets used (including sheet names as necessary) and supply them as supporting evidence to the monitoring report. The aim is to direct your assurance providers to the information as quickly as possible, which will result in a quicker review process.”.				
It has been observed that the section E.2 in the MR is followed by section A.2, both of the section has a heading “Calculation of project value or estimation of project situation of each SDG Impact”. PP is requested to keep only the required section and remove the additional one.				
The values provided in the section E.1 and E.2 of MR should be consistent with the values provided in the section E.4 of the MR.				

Thus, the finding is open.	
<b>Project participant response</b>	<b>Date: 04/07/2023</b>
The rectification has been now done in the revised MR.	
<b>Documentation provided by CME</b>	
PerfCert_V1.1-Monitoring-Report_MP 03	
<b>DOE assessment</b>	<b>Date: 17/07/2023</b>
It has been observed that the PP has revised the section E.1 and E.2 of MR and has been made consistent with the GS monitoring report template guideline.	
Thus, the finding is closed.	

<b>CAR ID</b>	08	<b>Section no.</b>	E.2	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
It has been observed that in the section A.1 of the MR (E.2 as per the template), the description provided for the parameter Nb and Np for the calculation of SDG 7 is not consistent with the description of these parameters provided in the section B.6.1 of the PDD. PP is requested maintain the consistency in the description statement between MR and PDD				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
PP has updated the section in the revised MR				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
It has been observed that the PP has revised the description of the parameter in MR and has been made consistent with the PDD.				
Thus, the finding is closed.				

<b>CAR ID</b>	09	<b>Section no.</b>	E.4	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
It has been observed that in the section E.4 of the MR, PP has provided the ex ante value of SDG 13. However, the calculation of this value is not provided in the ER, PP is requested to provide the same in the ER and provide the reference to the ER sheet as a footnote in the MR.				
Moreover, in section E.5.1, PP has provide a total ER value of 35,321 under the ex ante emission reduction calculation table of the stove HPN-JE-01ND. PP is requested to remove the same as it is observed to the the total Ex ante ER value for 3 stoves combined.				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
The value mentioned in E.4. is of Calculation of net benefits or direct calculation for each SDG Impact and not of ex-ante value				
The ex-ante value is correctly mentioned under total emission (row) and ER as per PDD (column)				
<b>Documentation provided by CME</b>				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
In the section B.5.1 of the MR, (page number 41) PP has provided the total estimated ex ante ER value of 35,321 tCO <sub>2</sub> below the ex-ante calculation table of the stove HPN JE-01 ND, while the same value has been provided again in the page number 42 below the ex ante ER calculation of all the ICS. PP is request to remove the total ex ante value given in the page 41 if found to be additional.				
Also, It has been observed that in the section E.5 of the MR, PP has provided the ex ante value of SDG 13 (35,321 tCO <sub>2</sub> ). However, the calculation of this value is not provided in the ER, PP is requested to provide the same in the ER and provide the reference to the ER sheet as a footnote in the MR.				
Thus, the finding is closed.				

<b>CAR ID</b>	10	<b>Section no.</b>	B.1.1	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
As per the review of the previous verification report v1.1 dated 21/07/2022, A FAR has been raised which is not mentioned in the section B.1.1 of MR. PP is requested to add the same with response.				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>

PP has updated the section in the revised MR	
<b>Documentation provided by CME</b>	
PerfCert_V1.1-Monitoring-Report_MP 03	
<b>DOE assessment</b>	<b>Date: 28/06/2023</b>
It has been observed that the PP has added the FAR raised in the previous verification report in the section B.1.1 of the MR.	
Thus, the finding is closed	

<b>CAR ID</b>	11	<b>Section no.</b>	MR	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
It has been observed that PP has not represented the parameters in the MR in appropriate format. PP is requested to keep the proper sub script and superscript for all the parameters wherever applicable				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
PP has updated the section in the revised MR				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
PP has revised the MR with proper representation of the parameters.				
Thus, the finding is closed.				

<b>CAR ID</b>	12	<b>Section no.</b>	D.4	<b>Date: 16/05/2023</b>
<b>Description of CAR</b>				
In the section D.4 of the MR, PP is requested to add the number of enumerators who conducted the monitoring survey for the current monitoring period. The evidence of the employment provided to the enumerator, their training records are also requested to be provided.				
<b>Project participant response</b>				<b>Date: 17/05/2023</b>
PP has updated the section in the revised MR. The evidence of employment has been provided and their training records has already been shared previously please refer to 'Training records' folder.				
<b>Documentation provided by CME</b>				
PerfCert_V1.1-Monitoring-Report_MP 03 Employment folder				
<b>DOE assessment</b>				<b>Date: 28/06/2023</b>
It has been observed that PP has revised the section D.4 of the MR and the details of the enumerators who conducted the monitoring survey has been added. VVB confirms that these enumerators has undergone monitoring survey training based on the review of the training records provided by the PP. Their proof of employment has also been cross checked by VVB by reviewing the employment Id card provided to the VVB				
Thus, the finding is closed.				

**Table 4: Forward Action Requests from this Verification**

<b>FAR ID</b>	01	<b>Section no.</b>		<b>Date: 11/09/2023</b>
<b>Description of FAR</b>				
During the subsequent monitoring survey, PP should ensure that the number of meals cooked per day per household for all the cooking devices are documented. VVB shall verify the same.				
<b>Project participant response</b>				<b>Date:</b>
<b>Documentation provided by CME</b>				
<b>DOE assessment</b>				<b>Date:</b>

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**Document information**

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> <li>• Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN);</li> <li>• Make structural and editorial improvements.</li> </ul>
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.

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