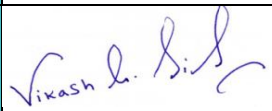
Verification and certification report form for Gold Standard programme of activities

BASIC INFORMATION	
Title and UNFCCC reference number of the programme of activities (PoA)	UpEnergy – Social and Climate Impact Programme (GS 10963)
Version number(s) of the PoA-DD(s) to which this report applies	05
GS ID (s) of the VPAs	GS 10970 - UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-4
Version number of the verification and certification report	02
Completion date of the verification and certification report	13/10/2023
Monitoring period number and duration of this monitoring period	02 01/02/2022 to 31/01/2023 (both the days are included)
Version number of the monitoring report to which this report applies	2
Activity Requirements applied	Community Services Activities
Product Requirements applied	GHG Emission Reduction & Sequestration
Coordinating/managing entity (CME)	UpEnergy Group
Host Party	Malawi
Applied methodologies and standardized baselines	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 03.1
Mandatory sectoral scopes	03
Conditional sectoral scopes, if applicable	-
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	53,433 tCO_2e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	25,209 tCO_2e
SDG Impacts:	1. SDG 1: No poverty 2. SDG 3: Good health and wellbeing

	3. SDG 5: Gender Equality 4. SDG 7: Affordable and Clean Energy 5. SDG 8: Decent work and Economic Growth 6. SDG 12: Responsible Consumption & Production 7. SDG 13: Climate Action 8. SDG 15: Life on Land
Name and UNFCCC reference number of the VVB	E-0052: Carbon Check (India) Private Ltd.
Name, position and signature of the approver of the verification and certification report	 Vikash Kumar Singh, Compliance Officer

SECTION A. Executive summary

Carbon Check (India) Private Ltd. (CCIPL) has been appointed by the CME to perform the second periodic verification of the GS Programme of Activities, "UpEnergy – Social and Climate Impact Programme", for the VPA titled, "UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-4" (GS project id: GS 10970) for the period 01/02/2022 – 31/01/2023 (both the days included). The proposed VPA involves providing residential users with clean cooking technologies such as energy-efficient cookstoves (ICS) and electric cooktop/cooker (EPC) that helps to save energy and reduce greenhouse gas (GHG) emissions from the burning of non-renewable woody biomass and/or charcoal for cooking in Malawi. 1. The VVB would like to clarify that, though the technology 'Electric Cooktop/cooker' is part of the VPA-DD, during the current monitoring period the distribution of the electric cooktop/cooker has been NIL. Once the distribution starts, the CME will start reporting it in the related MR.

According to the VPA-DD /B04/, The UpEnergy Group is the coordinating/managing entity (CME) of the PoA and the Implementer of the VPA (VPAI). The overall objective of the VPA is to contribute to the achievement of the Sustainable Development Goals (SDGs) through the distribution of Improved Cookstoves (ICS) in households of Malawi.

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

Verification is the periodic independent review and ex-post determination of both quantitative and qualitative information by a Validation & verification body (VVB), of the monitored reductions in GHG emissions that have occurred as a result of the project activity during a defined monitoring period.

Certification is the written assurance by a validation & verification body (VVB) that, during a specific period, a project activity achieved the emission reductions as verified.

The objective of this verification was to verify and certify emission reductions reported for the "UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-4" in the host country "Malawi" for the period 01/02/2022 – 31/01/2023 (both the days included).

The purpose of verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data and used to confirm the reductions in anthropogenic emissions by sources, is sufficient, definitive and presented in a concise and transparent manner. CCIPL's objective is to perform a thorough, independent assessment of the registered project activity.

In particular, the monitoring plan, monitoring report and the project's compliance with relevant GS and Host Party criteria are verified in order to confirm that the component project/s has/have been implemented in accordance with the previously registered project design and conservative assumptions, as documented. It is also confirmed if the monitoring plan is in compliance with the registered VPA-DD and the approved monitoring methodology.

Scope:

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered VPA-DD
- To verify the implemented monitoring plan with the registered VPA-DD and applied baseline and monitoring methodology.

- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

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

Verification process:

The verification comprises a review of the monitoring report /02/ over the monitoring period from 01/02/2022 – 31/01/2023 (both the days included) and based on the registered VPA-DD as part of the monitoring parameters and monitoring plan, emission reduction calculation spreadsheet, monitoring methodology, and all related evidence provided by project participants.

On-site interviews and inspections are also performed as part of the verification process.

Conclusion:

The verification team assigned by the validation & verification body (VVB) concludes that the monitoring report /02/, meet all relevant requirements of the Gold Standard as per the requirements of GS4GG. The verification has been conducted in-line with the GS4GG requirements.

The VPA was correctly implemented according to the selected monitoring methodology, monitoring plan and the registered VPA-DD /B04/. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. The following table provides the resulted emission reduction from the project as verified through the document review and on-site interviews by the verification team.

Vintage	**ER (tCO_2e)**
01/02/2022 – 31/12/2022	20,645 tCO_2e
01/01/2023 – 31/01/2023	4,564 tCO_2e
Total for the monitoring period	**25,209 tCO_2e**

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

SECTION B. Verification team, 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	IR	Mane	Dinesh	CCIPL	X	X	X	X

2.	Trainee Assessor	IR	Shirke	Rishika	CCIPL	X			X
3.	Local Expert	EI	Kumwima	Priscilla	CCIPL		X	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	CCIPL
2.	Approver	IR	Singh	Vikash Kumar	CCIPL

Dinesh Mane: He is an appointed Team Leader and Technical Expert for technical area 1.2, 3.1 and 13.1. He is having more than 19 years of experience, which involves experience in the environmental services industry. Certification Bodies, Chemical Industries, Project management and technical skills in areas viz., Environment, Energy, Occupational Health and Safety, GHG offset projects Validation and Verification, ISO Audits (IMS) Renewable Energy and waste management. He worked in various capacities at TUV Rhineland India Pvt. Ltd. He is involved in more than 50 GHG audits including validation/verification/post registration changes.
He has also attended Several Gold Standard VVB webinar trainings including training on GS4GG.

Rishika Shirke: Rishika is qualified as Trainee Assessor and involved in various validations and verifications under GS, VCS and GCC projects. She has also attended Several VERRA & Gold Standard DOE webinar trainings including training on GS4GG. She holds a Master of Science degree in Environmental Studies from S.K. Somaiya Vidyavihar University, Mumbai.

Indumathi. C: Qualified lead assessor and internal technical reviewer for offset projects validations and verifications under CDM, VCS and Gold Standard (GS) and actively been involved in the validation and verification or internal technical review of more than 300 GHG offset projects. She is qualified as technical expert for TA 1.2, 3.1,4.1,13.1 and 13.2 under CDM SS categorisation. She has undergone extensive training in the validation and verification of carbon offset projects including the accreditation requirements for the VVBs. She has more than 14 years of work experience in climate change mitigation, renewable energy, energy efficiency and energy access. She has worked with various Designated Operational Entities like TUV NORD, TUV Rhineland and 4KES for GHG emission reduction projects under different carbon crediting mechanisms. Moreover, she was involved in implementation of UNDP energy programs at Ministry of New and Renewable Energy (MNRE) and has also gained experience in energy trade by working with British High Commission. She is a certified GHG Auditor and Energy Manager (Bureau of Energy Efficiency, Government of India). She holds a Bachelor of Technology degree in Energy and Environmental Engineering & Post Graduate Diploma in Business Administration. She has been involved in number of GS validation and verification projects (as internal technical reviewer).

She has also attended Several Gold Standard VVB webinar trainings including training on GS4GG.

Priscilla Kumwima: She is a local expert for Zimbabwe and speaks the local language as well as English.

SECTION C. Means of verification

C.1. Desk/document review

The verification was performed primarily based on the review of the Monitoring report /02/ and the 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.

C.2. On-site inspection

Onsite physical audit has been performed. The Team leader has conducted the on-site inspection and in particular the end user households have been visited.

Furthermore, VVB has considered the Site Visit and Remote Audit Requirements and Procedures, version 1.0 /B06/ for conducting the onsite visit. In accordance with the requirements provided in the §3.1.1(b) of the Site Visit and Remote Audit Requirements and Procedures, version 1.0 /B06/.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
/01/	Sharma	Karan	Program Officer, Carbon UpEnergy Group	16/08/2023	MR preparation, GS requirements, Emission reduction calculations, methodology applicability, start date justification, Project Design, ownership details, carbon credit ownership arrangements, monitoring and reporting arrangements, QA/QC procedures, baseline assessment, Project technology etc.	Dinesh Mane, Priscilla Kumwima
/02/	Chunda	Gift	Regional Head, carbon UpEnergy Group	16/08/2023	VPA Design, Organization Structure, Stove Distribution Mechanism, Details of survey, methodology, Survey results, QA/QC procedure etc.	Dinesh Mane, Priscilla Kumwima
/03/	Malango	Ganizani	Country Head, carbon UpEnergy Group	16/08/2023	VPA Design, Organization Structure, Stove Distribution Mechanism, Details of survey, methodology, Survey results, QA/QC procedure etc.	Dinesh Mane, Priscilla Kumwima
/04/	Kumowa	Khumber	Data Officer UpEnergy Group	16/08/2023	Habit Surveys, Feedback from the local stakeholders, KPT Surveys process, Stove Distribution Mechanism	Dinesh Mane, Priscilla Kumwima
/05/	Kausa	Johannes	Data Officer UpEnergy Group	16/08/2023	Habit Surveys, Feedback from the local stakeholders, Stove Distribution	Dinesh Mane, Priscilla Kumwima

					Mechanism	
/06/	Bawa	Charles	Talent Co-Ordinator UpEnergy Group	16/08/2023	Habit Surveys, Feedback from the local stakeholders, Stove Distribution Mechanism	Dinesh Mane, Priscilla Kumwima
/07/	Lackoon	Mankharer	Enumerator UpEnergy Group	16/08/2023	Habit Surveys, Feedback from the local stakeholders, Stove Distribution Mechanism	Dinesh Mane, Priscilla Kumwima
/08/	Josophino	Solobaka	Enumerator UpEnergy Group	16/08/2023	Habit Surveys, Feedback from the local stakeholders, KPT Surveys process, Stove Distribution Mechanism	Dinesh Mane, Priscilla Kumwima
/09/	Blessings	Chibwana	Enumerator UpEnergy Group	16/08/2023	Habit Surveys, Feedback from the local stakeholders, KPT Surveys process, Stove Distribution Mechanism	Dinesh Mane, Priscilla Kumwima
/10/	Mayaniko	Minofa	Enumerator Carbon Impact Consutency	16/08/2023	Habit Surveys, Feedback from the local stakeholders, KPT Surveys process, Stove Distribution Mechanism	Dinesh Mane, Priscilla Kumwima
/11/	Hpatsa	Mulumba	Enumerator UpEnergy Group	16/08/2023	Habit Surveys, Feedback from the local stakeholders, KPT Surveys process, Stove Distribution Mechanism	Dinesh Mane, Priscilla Kumwima
/12/	Hbell	Monondo	Malawi Bureau of Standards Laboratory Incharge	16/08/2023	Calibration Procedure of equipment's used and calibrated in monitoring period	Dinesh Mane, Priscilla Kumwima
/13/	Tenthani	Loyce	KPT Survey Participant (Stove id SHP012086)	16/08/2023	KPT Survey and Monitoring Survey Questionnaire	Dinesh Mane, Priscilla Kumwima
/14/	Chikalamo	Betha	KPT Survey Participant (Stove id SHP013674)	16/08/2023	KPT Survey and Monitoring Survey Questionnaire	Dinesh Mane, Priscilla Kumwima
/15/	_	Chavula	KPT Survey Participant (Stove id	16/08/2023	KPT Survey and Monitoring Survey Questionnaire	Dinesh Mane, Priscilla Kumwima

			SHP015349)			
/16/	Matebule	Martin	KPT Survey Participant (Stove id SHP016764)	16/08/2023	KPT Survey and Monitoring Survey Questionnaire	Dinesh Mane, Priscilla Kumwima
/17/	Mayuni	Esnart	KPT Survey Participant (Stove id SHP018912)	16/08/2023	KPT Survey and Monitoring Survey Questionnaire	Dinesh Mane, Priscilla Kumwima
/18/	Chimphanga	Patrick	KPT Survey Participant (Stove id SHP020161)	16/08/2023	KPT Survey and Monitoring Survey Questionnaire	Dinesh Mane, Priscilla Kumwima
/19/	_	Chitsamvu	KPT Survey Participant (Stove id SHP05602)	16/08/2023	KPT Survey and Monitoring Survey Questionnaire	Dinesh Mane, Priscilla Kumwima
/20/	Salika	Gift	KPT Survey Participant (Stove id SHP00357)	16/08/2023	KPT Survey and Monitoring Survey Questionnaire	Dinesh Mane, Priscilla Kumwima

C.4. Sampling approach

As the target population is homogeneous, CME has employed representative sampling plan using 90/10 as confidence/precision. This is in line with the applied methodology /B02/. The sample size for monitoring/usage survey is determined using random sampling which is inline with the PoA-DD / VPA-DD.

As per paragraph 25 of the Sampling Standard, version 09 /B07/, the verification team has to verify whether the project participants or the coordinating/managing entity have implemented the sampling and surveys according to the sampling plan in the registered monitoring plan. The verification includes determining:
(a) Whether the required confidence/precision has been met;
(b) Whether the selected sample was representative of the population.

In line with paragraph 26 of the Sampling Standard /B05/, the verification team has applied a sampling approach for on-site visits surveys as part of verification. Now as the CME had applied sampling approach, the verification team has chosen acceptance sampling in accordance with paragraph 28 of the sampling standard and accordingly steps listed in paragraph 29 of the sampling standard were followed.

The verification team of the VVB has applied a sampling approach for on-site visits as part of verification in accordance with the paragraph 26 of the Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 09.0. In accordance with the paragraph 28 of the sampling standard, acceptance sampling has been chosen by the verification team and accordingly steps listed in paragraph 29 of the sampling standard shall be followed. Verification team has opted for AQL of 1 % and UQL of 20 %; producer risk of 10 % and consumer risk of 20% in determining the VVB's sample size. Accordingly, site visits for 8 households / samples from the CME's sample size for the PoA for the monitoring period with acceptance number (c) as 0 was conducted.

The KPT and monitoring/usage survey participants for the survey carried out during March to April 2023 were interviewed. The survey participants were interviewed by the verification team.

The Information provided in the monitoring survey /12/, has been cross checked during the Onsite visit. As a part of simple random sampling, the Verification team could confirm the monitoring survey data /12/ with no discrepant records. Thus, PP's set of records has been accepted in line with § 33 of the sampling standard, version 09 /B05/.

Parameter	Verification approach	Population (for VVB's sample)	VVB's Sample Size
Monitoring/usage surveys/12/	Sampling Survey	218	08
KPT Surveys/11/ /15/	Sampling Survey	107	

The monitoring/usage survey were carried out by CME in the month from March to June 2023.The details of the sample interviewed are listed in section C.3 (under the list of interviewed persons). No discrepancy was found in any of the 11 samples each of monitoring/ usage surveys and KPT Surveys and thus c=0, i.e., no discrepant records were observed. Thus, PP's set of records has been accepted in line with §33 of the sampling standard (version 09.0) /B05/. For the impact parameters, questionnaire was prepared and was used during the survey by the PP. During the on-site interviews, the verification team cross-checked these sample documents, and no discrepancies were found in the impact parameters as well. Furthermore, the training & competency of the personnel/19/, who conducted such test were checked. They were also interviewed to ensure that the process, method used, and their competency to confirm such standardised test were appropriately applied. The sampling technique to draw such samples were found adequate and the sample collectors were found competent to perform such task.

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

The VVB had raised and closed 04 clarifications (CLs) and 03 corrective action requests (CARs). FAR 01 was raised during validation and carry forward during further verifications. Hence FAR 01 will get carry forward for next periodic verification.

SECTION D. Verification findings

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

There were no forward action requests from the previous verification.

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

Means of verification	Document Review, Interview
Findings	CAR 01, CAR 03 and CL 01 has been raised. Refer appendix 4 for further details.
Conclusion	Verification team confirms that the latest available version of the monitoring report template has been used and the MR is in compliance with the monitoring report form and related monitoring report template guide. As verified from on-site interview, the audit team confirm the project implementation and operation complies with the VPA-DD/B04/. The starting date of stove distribution/04/ is 25/10/2021 which is confirmed from the registered VPA-DD /B04/ and validation report /B04/. The project boundary in the registered VPA-DD /B04/ is in line with the actual project boundary. CCIPL confirms that the project cookstoves are operational through on-site visits and interviews with end users. Each cookstove has a unique identification number that was provided in the end user agreement and are correct according to the project database. Each cookstove is also physically marked with its unique identification number. Along with the serial number, the stove technology, end username, address, commissioning 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, that 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 CME; no change has been observed or identified that may impact the scale of the project activity or applicability of baseline and monitoring methodology Technologies and Practices to Displace Decentralized Energy Consumption (version 3.1) /B01/. The first ICS's distribution was started from 25/10/2021. A total of 13,364 (VPA 4) cookstoves were distributed in the monitoring period. However, as per the applied methodology TPDDTEC version 3.1 the usage is considered to be 90%. Hence number of households with operational stoves in project scenario is considered to be 12,027. Verification team based on the review of the MR /02/ and provided evidence confirms that the households/end users relinquish their right of carbon credits. Furthermore, the ICS implemented under the project is uniquely identified, thus avoiding any potential double counting. As verified through document review and on-site interviews, the project implementation and operation, all physical features of the project comply with the VPA-DD /B04/. Verification team has checked the information in the monitoring report /02/ and compared it against the registered VPA-DD /B04/ and found to be consistent. Verification team confirms that: a) The project activity is implemented as per registered VPA-DD/B04/. b) The actual operation of the proposed project activity is in line with the registered/revised VPA-DD /B04/.

	c) It has reviewed the registered VPA-DD /B04/ including the monitoring plan, the applied monitoring methodology and found that the final MR/02/ for this monitoring period is in line with all the above-mentioned documents. Verification team of CCIPL based on review of records and on-site interviews confirms that a robust and effective grievance addressal mechanism is in place and however, no grievances were reported during the monitoring period/14/. In summary, the monitoring period is reasonable, and the operation of the project activity is in accordance with the registered/revised VPA-DD /B04/.

D.3. Post-registration changes

D.3.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents[1]

Not applicable

D.3.2. Corrections

Not applicable

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

Not applicable

D.3.4. Inclusion of a monitoring plan

Not applicable

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

Not applicable

D.3.6. Changes to the project design

Not applicable

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

Not applicable

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

Means of verification	Document Review, Interview
Findings	CL 01 has been raised. Refer appendix 4 for further details.
Conclusion	The verification team is able to confirm that the monitoring plan contained in the included VPA-DD /B04/ is in accordance with the approved methodology applied by the project activity, i.e. Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1 /B02/. The monitoring plan is in accordance with the approved methodology, Technologies and Practices to Displace Decentralized Thermal Energy

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

	Consumption (TPDDTEC), version 3.1 /B02/, applied by the VPA and as provided in the included VPA-DD /B04/. The verification took cognizance of § 341 to § 343 of CDM VVS for PoAs, version 03.0 /B01-1/.

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

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

<table>
<tr><td>Means of verification</td><td>Document Review, Interview</td></tr>
<tr><td>Findings</td><td>CL 02 has been raised. Refer appendix 4 for further details.</td></tr>
<tr><td>Conclusion</td><td>The following parameters have been fixed ex-ante for the VPA considered under this monitoring period:
<table>
<tr><th>Parameter</th><th>Description of the parameter</th><th>Value</th><th>Source</th><th>Assessment by VT</th></tr>
<tr><td>$EF_{b,CO2}$</td><td>CO_2 emission factor arising from use of fuels in baseline Scenario</td><td>Fuelwood (Residential): 112 tCO_2/TJ</td><td>IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table2.5)</td><td>The value is consistent with included VPA -DD /B04/ and fixed ex - ante for the duration of the crediting period.</td></tr>
<tr><td>$EF_{b,nonCO2}$</td><td>Non-CO_2 emission factor arising from use of fuels in baseline scenario</td><td>Fuelwood (Residential): 9.46 tCO_2/TJ</td><td>IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.9)</td><td>The value is consistent with included VPA -DD /B04/ and fixed ex - ante for the duration of the crediting period. Though the value of 37.25 tCO2/TJ for EFb,non-CO2 has been approved by the GS / SustainCERT in the</td></tr>
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					design certified VPA DD, the PD has calculated the emission reductions for the current monitoring period using IPCC value of 9.46 tCO2/TJ for EFb,non-CO2, instead the design certified value of 37.25 to be conservative.
	$EF_{p,CO2}$	CO_2 emission factor arising from use of fuels in project Scenario	Fuelwood (Residential): 112 tCO_2/TJ	IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.5)	The value is consistent with included VPA -DD /B04/ and fixed ex - ante for the duration of the crediting period.
	$EF_{p,nonCO2,CH4}$	Non-CO_2 emission factor for methane arising from use of fuels in project Scenario	Fuelwood (Residential): 9.46 tCO_2/TJ	IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.9)	The value is consistent with included VPA -DD /B04/ and fixed ex - ante for the duration of the crediting period. Though

					the value of 37.25 tCO2/TJ for EFb,non-CO2 has been approved by the GS / SustainCERT in the design certified VPA DD, the PD has calculated the emission reductions for the current monitoring period using IPCC value of 9.46 tCO2/TJ for EFb,non-CO2, instead the design certified value of 37.25 to be conservative.
	NCV_b	Net calorific value of the fuels used in the baseline	Fuelwood: 0.0156 TJ/ton	IPCC default 2006, volume 2, chapter 1 (Table 1.2)	The value is consistent with included VPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.
	NCV_p	Net calorific value of the fuels used in the project	Fuelwood: 0.0156 TJ/ton	IPCC default 2006, volume 2,	The value is consistent with

				chapter 1 (Table 1.2)	included VPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.
	$f_{NRB,b,i,y}$	Non-renewability status of woody biomass fuel in scenario i during year y	0.78	Assessment based on CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass, Version 03.0	The value is consistent with included VPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.
	$TDL_{j,y}$	Average technical transmission and distribution losses for providing electricity to source j	0.20	CDM Methodological tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 03.0. Default value of 20% as per the tool	The value is consistent with included VPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.
	$EF_{el,y}$	Emission factor for electricity generation for source j in year y	0.243 tCO_2/MWh	UNFCCC Harmonization of Standards for GHG accounting dated December 2021	The value is consistent with included VPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.

	$P_{b,y}$	Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day	0.018 tonnes/day	Baseline survey and KPT is conducted, and value is fixed ex-ante for subsequent issuance.	The value is determined based on the baseline survey and KPTs conducted by the CME. The value was checked during the verification and the baseline survey report was cross checked. The assessment of baseline survey is provided in the Annex 1.
	$HHS_{baseline}$	% users reporting money saving due to reduced fuel consumption in baseline	0	Baseline survey is conducted, and value is fixed ex-ante for subsequent issuance.	The value is determined based on the baseline survey conducted by the CME. The value was checked during the verification and the baseline survey report was cross checked. The assessment of baseline survey is provided in the Annex 1.

	$HHsmoke_{baseline}$	% users reporting reduction in smoke/PM emissions while cooking on improved stove in baseline	0	Baseline survey is conducted, and value is fixed ex-ante for subsequent issuance.	The value is determined based on the baseline survey conducted by the CME. The value was checked during the verification and the baseline survey report was cross checked. The assessment of baseline survey is provided in the Annex 1.	
	$HHtime_{baseline}$	% users reporting time savings for cooking /fuel collection	0	Baseline survey is conducted, and value is fixed ex-ante for subsequent issuance.	The value is determined based on the baseline survey conducted by the CME. The value was checked during the verification and the baseline survey report was cross checked. The assessment of baseline survey is provided in the Annex 1.	

	$HHclean_{baseline}$	Quantitative Employment and income generation	0	Baseline survey is conducted, and value is fixed ex-ante for subsequent issuance.	The value is determined based on the baseline survey conducted by the CME. The value was checked during the verification and the baseline survey report was cross checked. The assessment of baseline survey is provided in the Annex 1.
	$FC_{baseline}$	Fuel consumption in baseline	6.57	Baseline survey and KPT is conducted, and value is fixed ex-ante for subsequent issuance.	The value is determined based on the baseline survey and KPTs conducted by the CME. The value was checked during the verification and the baseline survey report was cross checked. The assessment of baseline survey is provided in the Annex 1.

	$FCHH_{baseline}$	Average Fuel consumption per HH in baseline	0.018	Baseline survey and KPT is conducted, and value is fixed ex-ante for subsequent issuance.	The value is determined based on the baseline survey and KPTs conducted by the CME. The value was checked during the verification and the baseline survey report was cross checked. The assessment of baseline survey is provided in the Annex 1.

Verification team confirms that the Data and parameters fixed ex-ante are in accordance with the registered PoA-DD and registered/ included VPA-DD /B04/ and the monitoring plan.

The verification took cognizance of §344, §345 and §357 of CDM VVS for PoAs, version 03.0 /B01-1/.

D.5.2. Data and parameters monitored

Means of verification	Document Review, Interview
Findings	CL02 has been raised. Refer appendix 4 for further details.
Conclusion	The verification team confirms that the data and parameters monitored are in compliance with the registered VPA-DD /B04/ and the monitoring plan. It is confirmed that the verification team assessed the data / information flow from the point of monitoring to emission reduction calculation and found no gap in the same. Please refer to the Annex 4 for assessment of each parameter.

D.5.3. Implementation of sampling plan

Means of verification	Document Review, Interview
Findings	CL 04 has been raised. Refer appendix 4 for further details.
Conclusion	Monitoring survey was conducted during the current monitoring period. The total population of the stoves under the VPA considered for the

	monitoring period is 13,364. The monitoring parameters required to be monitored through the sampling plan are: 1. Usage rate in project scenario p during year y ($U_{p,y}$) 2. Adjustment to account for any continued use of pre-project devices (baseline stove) in the project scenario during the year y (μ_y) 3. Specific fuel consumption for an individual technology in project scenario ($P_{p,y}$) 4. Quantity of fuel consumed by a baseline technology y in project scenario ($P_{ep,y}$) The CME's sampling plan for determining various monitoring parameters is based on the requirements in the applied methodology TPDDTEC version 3.1, which prescribes the desired level of confidence / precision (90/10 for single sample tests) for ex-post monitoring. The target population is the 13,364 ICS during the monitoring period. 1. The verification team would like to clarify that the number of ICS distributed is 13,364, but as per the TPDDTEC version 3.1 methodology the usage is considered to be 90%. Similarly for SDG 7 ICS stoves in project scenario is considered to be 12,027. The sampling frame is homogenous within itself, with respect to service level, established ex-ante baseline and user characteristics. The sample size is determined by the requirement to achieve 90/10 precision, in line with the methodology for annual survey for Monitoring/Usage Surveys and Biennial surveys for KPTs. The sample size calculated for monitoring/usage surveys is 100 based on the methodology TPDDTEC Version 3.1/B02/, for a group size > 1000 a minimum sample size of 100 is needed. PP has conducted surveys for 218 samples taking into consideration oversampling. The precision level achieved for the sample size is 2.60%. The sample size was done according to the TPDDTEC Version 3.1/B02/, here it states that for a group size > 1000 a minimum sample size of 100 is needed for such a survey. The usage survey was carried out for 218 households to account for the non-responses and is acceptable to the verification team. The sample size calculated for project KPT surveys based on a confidence interval/ precision level of 90/10 is 45 based on Annex 4, Table 3 of the methodology, TPDDTEC, version 3.1/B02/. The COV selected is 1.2 and thus sample size is 90. Oversampling of the surveys was done by the PP to use an actual sample size of 107. The precision of 5.72% is being achieved which falls within the 90/10 precision. The Usage Rate used by the CME for the VPA is 90% based on the Good Practice.

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

Means of verification	Document Review, Interview
Findings	CL 04 has been raised. Refer appendix 4 for further details.
Conclusion	The instruments used for the monitoring survey and KPTs were calibrated before the start of the monitoring surveys and the calibrations conducted by certified laboratories. All the calibrations conducted are valid for one year from the date of calibration which has also been confirmed by the calibration certificates /08/.Calibration details of the equipment used to assess project fuel consumption are as below

	Name of the equipment	**Model/Type**	**Serial number**	**Calibration date**	**Validity of calibration**
	Counter Scales	Dahongying	UPE23031701	17-03-2023	16-03-2024
	Counter Scales	Dahongying	UPE23031702	17-03-2023	16-03-2024
	Counter Scales	Dahongying	UPE23031703	17-03-2023	16-03-2024
	Counter Scales	Dahongying	UPE23031704	17-03-2023	16-03-2024
	Hanging Scale	N/A	2023051901	19-05-2023	18-05-2024
	Moisture Meter	No calibration required as the moisture meter are new.			
	The verification took cognizance of § 17.4.11 of GS VVS for PoAs, version 01.0 /B03-5/.				

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

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

Means of verification	Document Review, Interview
Findings	CL 01 has been raised. Refer appendix 4 for further details.
Conclusion	The emission reductions are calculated as follows: $ER_y = \sum BE_{b,y} - \sum PE_{p,y} - \sum LE_{p,y}$ Where: ER_y Emission reduction for total project activity in year y (tCO_2e/yr) $BE_{b,y}$ Baseline emissions for baseline scenario b in year y (tCO_2e/yr) $PE_{p,y}$ Project emissions for project scenario p in year y (tCO_2e/yr) $LE_{p,y}$ Leakage for project scenario p in year y (tCO_2e/yr) As per the methodology the equation for the emisión reduction calculations is as follows: The Baseline Emission reduction is calculated as: $BE_{b,y} = B_{b,y} *((f_{NRB,b,y} * EF_{b,fuel,CO2}) + EF_{b,fuel,non-CO2}) * NCV_{b,fuel}$ Where: $BE_{b,y}$ Emissions for baseline scenario b during the year y in tCO_2e $B_{b,y}$ Quantity of fuel consumed in baseline scenario b during year y, in tons $f_{NRB,b,y}$ Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass, 0.78 for Malawi $NCV_{b,fuel}$ Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton) $EF_{b,fuel,CO2}$ CO_2 emission factor of the fuel that is substituted or reduced. 112 tCO_2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel $EF_{b,fuel,nonCO2}$ Non-CO_2 emission factor of the fuel that is reduced, 9.46 tCO_2/TJ

	$B_{b,y} = N_{p,y} * P_{b,y}$ Where: $B_{b,y}$ Quantity of fuel consumed in baseline scenario b during year y, in tons $P_{b,y}$ Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day, 0.018 tonne/day $N_{p,y}$ Project technology-days in the project database for project scenario p through year y (2,211,706 days) The overall baseline emissions for the reported monitoring period are 60,130 tCO_2e.

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

Means of verification	Document Review, Interview
Findings	CL 01 has been raised. Refer appendix 4 for further details.
Conclusion	Project emissions due to biomass consumption is applicable for this project. For the current monitoring period, ICS project emissions are calculated as follows. $PE_{p,y} = B_{p,y} * ((f_{NRB,p,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,non-CO2}) * NCV_{p,fuel}$ $B_{p,y} = N_{p,y} * ((P_{p,y} * U_{p,y}) + (P_{b,y} * (1 - U_{p,y})))$ Where: $PE_{p,y}$ Emissions for project scenario p during the year y in tCO_2e $B_{p,y}$ Quantity of fuel consumed in project scenario p during year y, in tons $f_{NRB,y}$ Fraction of biomass used in year y that can be established as non-renewable biomass, 0.78 $NCV_{p,fuel}$ Net calorific value of the project fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton) $EF_{p,fuel,CO2}$ CO_2 emission factor of the fuel that is substituted or reduced. 112 tCO_2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel $EF_{p,fuel,nonCO2}$ Non-CO_2 emission factor of the fuel that is reduced, 9.46 tCO_2/TJ $N_{p,y}$ Project technology-days in the project database for project scenario p through year y, 2,211,706 days $P_{p,y}$ Specific fuel consumption for an individual technology in project scenario p during year y converted to tons/day, 0.009615 tonne/day $U_{p,y}$ Cumulative usage rate for technologies in project scenario j during year y, based on cumulative installation rate and drop-off rate, 90% $P_{b,y}$ Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day, 0.018

	The reported value for the project emissions is 34,921 tCO_2e for the reported monitoring period.

D.7.3. Calculation of leakage GHG emissions

Means of verification	Document Review, Interview
Findings	-
Conclusion	A justification has been provided for each condition as per the methodology TPDDTEC, version 3.1/B02/. There are no leakages applicable for the reported monitoring period.

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

Means of verification	Document Review, Interview
Findings	-
Conclusion	Emission Reductions: The emission reductions in this monitoring period are: $ER_y = \sum BE_{b,y} - \sum PE_{p,y} - \sum LE_{p,y}$ Where: ER_y Emission reduction for total project activity in year y (tCO_2e/yr) $BE_{b,y}$ Baseline emissions for baseline scenario b in year y (tCO_2e/yr) $PE_{p,y}$ Project emissions for project scenario p in year y (tCO_2e/yr) $LE_{p,y}$ Leakage for project scenario p in year y (tCO_2e/yr) $ER_y = BE_y - PE_y - LE_y$ As explained in section D.7.1 above, the resulted Baseline emissions (BEy) for the monitoring period is 60,130 tCO_2e and as explained in section D.7.2 project emission is 34,921 tCO_2e for the monitoring period. Hence, resulted emission reduction for the monitoring period is 25,209 tCO_2e.

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

Means of verification	Document Review, Interview
Findings	CAR 02 and CL 03 has been raised. Refer appendix 4 for further details.
Conclusion	The ex-ante estimate value of the emission reductions for the monitoring period as per the registered PDD is 53,433 tCO_2e and the actual emission reductions achieved for the monitoring period is 25,209 tCO_2e.

SDG	Values estimated in ex ante calculation approved PDD for this monitoring period	Actual values achieved during this monitoring period
13	53,433 tCO2e	25,209 tCO2e
1	100%	90%
3	100%	90%
5	95%	90%
7	9,090	12,027
8	40	61
12	55%	47%
15	99.90 tonnes-equivalent fuelwood/day	100.85 tonnes-equivalent fuelwood/day

The emission reduction calculations provided in the spreadsheet /03/ have been verified to be correct and in line with the registered VPA-DD /B04/.

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

Means of verification	Document Review, Interview
Findings	--
Conclusion	The ex-ante estimate value of the emission reductions for the monitoring period as per the registered VPA-DD /B04/ is 53,433 tCO_2e and the actual emission reductions achieved for the monitoring period is 25,209 tCO_2e. For SDG 13, since actual emission reduction is lower than the estimated value and hence it is acceptable to the verification team. The monitoring report /02/ provides reason for decrease in the actual emission reduction and the same was confirmed by the verification team by interviewing the representatives of PP and by reviewing the actual implementation status of the project. For SDG 1, 3, 5, 7, 12 and 15 parameters, the actual values are lower than the estimated value, which is deemed appropriate and thus acceptable to the VVB, while for SDG 8 PP has provided justification in the Monitoring report and assessment of the same is provided below: • SDG 8: The actual value is higher than the estimated value, due to higher number of personnel hired for distribution and monitoring compared to the ex-ante estimates.

SECTION E. Internal quality control

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

SECTION F. Verification/Certification opinion

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Carbon Check (India) Private Ltd. (CCIPL) has performed the 2nd periodic verification of the registered GS Programme of Activities, "UpEnergy – Social and Climate Impact Programme", for the VPA titled, "UpEnergy – Social and Climate Impact Programme-Cooking Devices VPA-4" (GS project id: GS 10970) for the period 01/02/2022 – 31/01/2023 (both the days included).

The verification team assigned by the VVB concludes that the project activity as described in the VPA-DD /B03/ and the Monitoring report /02/, meets all relevant requirements of the Gold Standard. The verification has been conducted in-line with the GS4GG requirements project activities.

Verification methodology and process

The Verification team confirms the contractual relationship signed between the VVB, Carbon Check (India) Private Ltd. and the Project Participant. The team assigned to the verification meets the CCIPL's internal procedures including the UNFCCC/GS requirements for the team composition and competence. The verification team has conducted a thorough contract review as per UNFCCC and CCIPL's procedures and requirements.

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

- Reviewing the PoA-DD and VPA-DD /B04/, including the monitoring plan and the corresponding validation report /B03/;
- Desk review of the MR /02/ and other relevant documents including documents related to the project activities in emission reductions;
- Review of the applied monitoring methodology Technologies and Practices to Displace Decentralized Energy Consumption (version 3.1) /B02/;
- On-site inspection (16/08/2023)
- Resolution of CARs and CLs raised during verification
- Issuance of Verification Report

The project activity was correctly implemented according to selected monitoring methodology, monitoring plan and the registered VPA-DD. The monitoring system was installed, maintained in a proper manner, while collected monitoring data allowed for the verification of the amount of achieved GHG emission reductions. Through the document review and remote interviews, the verification team confirms that the project activity has resulted in the 25,209 tCO_2e emission reductions during the reported monitoring period.

This statement covers verification period from 01/02/2022 – 31/01/2023 (both the days included).

The VVB has raised 04 clarifications and 03 corrective action requests, all of which are satisfactorily closed.

The VVB considers necessary to give reasonable assurance that reported GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology and the monitoring plan contained in the registered VPA-DD are fairly stated.

The VVB, hereby certifies that the project activity, achieved emission reductions by sources of GHG equal to 25,209 tCO_2e equivalent and all monitoring requirements have been fulfilled and is substantiated by an audit trail that contains evidence and records.

Vintage	**ER (tCO_2e)**
01/02/2022– 31/12/2022	20,645 tCO_2e
01/01/2023 – 31/01/2023	4,564 tCO_2e
Total for the monitoring period	**25,209 tCO_2e**

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CA	Corrective Action/ Clarification Action
CER	Certified Emission Reduction
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CL	Clarification Request
CME	Co-ordinating Managing Entity
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
DVR	Draft Verification Report
EB	CDM Executive Board
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final Validation Report
GHG	Greenhouse gas(es)
GS	Gold Standard
GWh	Giga Watt Hour
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LE	Leakage Emissions
MP	Monitoring Period
MR	Monitoring Report
MWh	Mega Watt Hour
OSV	On Site Visit
PE	Project Emissions
PP(s)	Project Participant(s)
QC/QA	Quality Control/ Quality Assurance
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
VVB	Validation & verification body

Appendix 2. Competence of team members and technical reviewers

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Dinesh Mane

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		

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
27th July 2023

Expiry Date
26th July 2024

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Carbon Check (India) Private Limited

Certificate of Competency

Priscilla Kumwima

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 Malawi		

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

03rd May 2023

Expiry Date

02nd May 2024

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

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

1st January 2023

Expiry Date

31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Appendix 3. Documents reviewed or referenced

S. No.	Document
/01/	Monitoring Report (Version 1, dated 02/08/2023)
/02/	MR Final Version (Version 2 dated 21/09/2023)
/03/	Emission reductions sheet (Corresponding to /01/ & /02/)
/04/	Total sales record containing: • Model of project technology sold. • Quantity of units sold, • Stove serial number (unique ID). • Date of installation/distribution.
/05/	KPT conducting methodology for cookstoves
/06/	Specific training records of third-party lab / surveying personnel on the following aspect: • Conducting of the monitoring survey using the questionnaire. • Checking of the quantity of fuel usage in each of the sampled households for the use of traditional stove. • Handling and use of measuring instruments. • Conducting KPTs • Data recording.
/07/	Stove specification of the ICS models used under the monitoring period
/08/	Calibration records for each of the monitoring equipment
/09/	Proof of Carbon Credits waiver by end user
/10/	Sample stoves sales receipt / user agreement
/11/	KPT records: • Equipment: ○ Purchase receipts of instruments used ○ Specifications of the equipment used (Weighing Scale, Moisture Analyzer, Thermometer) • KPT Reports (Project) • KPT survey results (Project)
/12/	Usage /Monitoring Survey
/13/	Baseline KPT survey records conducted from July to October 2020
/14/	Grievance Book
/15/	Competence of the persons who conducted survey and KPT

/16/	Employment List
/17/	Copy of agreement between the CME and VPA implementer
/18/	CME Manual for the PoA along with Organization Structure
/19/	Training Records
/20/	Project survey, Monitoring survey and usage survey Questionnaire template
/21/	Stakeholder Consultation Report, list of participants and the Presentation of the meeting
/22/	GS Feedback review form for the Validation/ VPA inclusion
/23/	Sampling Calculator for sample size, and precision level
/24/	Evidence for random number generator for sampling
/25/	fNRB calculation sheet
/26/	Copy of contract in between CME and third-party lab for conducting KPTs

Background Documents

Ref no.	Reference Document
/B01/	1. CDM Validation and Verification Standard for PoAs, version 03.0 2. CDM Project Standard for PoAs, version 03.0 3. CDM Project Cycle Procedure for PoAs, version 03.0
/B02/	Technologies and Practices to Displace Decentralized Energy Consumption (version 3.1)
/B03/	1. Gold Standard Principles and Requirements version 1.2, dated 24/10/2019 2. Gold Standard Programme of Activity Requirements version 1.2, dated 24/10/2019 3. GS Validation & Verification Body Requirements version 2.0, dated 14/01/2021 4. Community Services Activity Requirements (version 1.1) under GS4GG https://globalgoals.goldstandard.org/200-gs4gg-community-services-activity-requirements/
/B04/	• Registered PoA-DD, Version 05, dated 12/01/2022 and Corresponding Validation Report • Registered VPA-DD, Version 3.0, dated 16/09/2022 and Corresponding validation report • Issued MR ver Version 5.0, dated 27/06/2023 and Corresponding verification report

/B05/	Sampling and Survey a) CDM Sampling Standard, version 09.0 b) Guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0.
/B06/	Site Visit and Remote Audit Requirements and Procedures, version 1.0 dated 17/11/2021
/B07/	Cookstove Usage Rate Guidelines, version 2.0 dated 27/10/2020

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

Table 1. FARs from this verification

FAR ID	**01**	**Section no.**	**MR**	**Date: 16/08/2023**
Description of FAR				
The baseline study for the institutional/commercial users shall be conducted by the PD under baseline scenario 2 prior to first verification. Baseline surveys for institution should be conducted to be able to claim emission reductions from institutions.				
PP response				**Date:** 20/09/2023
Not applicable for this VPA (VPA 4), as VPA 4 aims at distributing improved cookstoves to only residential users.				
Documentation provided by the CME				
Sales database				
VVB assessment				**Date:** 13/10/2023
The VVB verified the sales database and confirms that all the cookstoves has been distributed to households and not a single stove has been distributed to institutional/commercial users. Hence, this FAR is carry forward for next verification in case if there is any distribution to institutional/commercial users.				

Table 1. CAR from this verification

CAR ID	01	**Section no.**	MR	**Date:** 16/08/2023
Description of CAR				
Following finding raised with reference to GS MR template filling guideline (Refer https://globalgoals.goldstandard.org/standards/TGuide-PerfCert_V1.1-Monitoring-Report.pdf) 1. Under table 'Programme of Activity Information', row 'Name and GS ID (s) of fully Validated CPA/VPAs lacks information on VPA nos. included and validated under the PoA. 2. Under table 'Key Project Information', in row 'Project Representative' the name is inconsistent with the registered VPA-DD. 3. In section A.3, indicate exact references (for eg: website link of the applied meth) 4. In section B.1.1, Declare any Forward Action Requests from Design Certification (1st Monitoring Period) or previous Performance Certifications and briefly summarise how they have been addressed.				
CME response				**Date:** 20/09/2023
1. The CME has updated the VPA nos. included and validated under the PoA. 2. The CME has updated the 'Project Representative' name as per the registered VPA-DD. 3. The CME has shared the link for the applied methodology in the section A.3 of MR. 4. In section B.1.1 the CME has updated the Forward Action Request from first monitoring period and addressed it.				
Documentation provided by CME				
Monitoring report v 2.0				
VVB assessment				**Date:** 13/10/2023
All the raised issues were closed by CME successfully by correcting MR; hence this CAR is closed.				

CAR ID	02	**Section no.**	MR	**Date:** 16/08/2023
Description of CAR				
Following inconsistencies has been observed: 1. The monitoring report for the monitoring period contains various values for ICS distributed over the monitoring period. Furthermore, the amount achieved for SDG 7 and the value for the data parameter '$N_{p,y}$ ' referring to the number of ICS distributed are inconsistent under multiple sections of the MR (sections B.1, D.2, D.3, as well as the value in the ER sheet). Same applies to Section E (i.e., E.2, E.4 and E.5).				

2. Under section D.3 of the monitoring report, the 'Value obtained last monitoring period' for '$N_{p,y}$', is found to be inconsistent with the MR for the previous monitoring period. 3. For SDG 13, the 'Values estimated in ex ante calculation of approved PDD for this monitoring period', is inconsistent with value in the ER sheet in the ER dashboard tab.	
CME response	**Date:** 20/09/2023
1. The CME would like to clarify that the number of ICS distributed is 13,364, but as per the TPDDTEC version 3.1 methodology the usage is considered to be 90%. Similarly for SDG 7 ICS stoves in project scenario is considered to be 12,027. 2. The value of 'Np,y' under section D.3 of this monitoring report has been updated to make it consistent with MR of previous monitoring period. 3. The CME has updated the SDG 13 value in ER dashboard tab of ER sheet as per the 'Values estimated in ex ante calculation of approved PDD for this monitoring period'.	
Documentation provided by CME	
Monitoring report v 2.0 and Emission reduction report v 2.0	
VVB assessment	**Date:** 13/10/2023
All the raised issues were closed by CME successfully by correcting MR; hence this CAR is closed.	

CAR ID	03	**Section no.**	MR	**Date:** 16/08/2023
Description of CAR				
Section C.1 of the VPA-DD states the start date as 01/08/2021, whereas the monitoring report for the 1st monitoring period states the ICS implementation date as 25/10/2021 to 31/01/2023. CME is requested to clarify on this.				
CME response				**Date:** 20/09/2023
The CME would like to clarify that the VPA DD showing on the Sustain CERT platform is not the final version. CME has already notified the Sustain CERT about this and asked them to change it to the final version. The CME is attaching the final version of VPA DD with this response in which it states that the start date of the project in section C.1 of VPA-DD is 25/10/2021, which is in line with the implementation/distribution dates of stoves mentioned in section B.1 of monitoring report i.e., 25/10/2021 to 31/01/2023.				
Documentation provided by CME				
Latest version of VPA DD V 03				
VVB assessment				**Date:** 13/10/2023
The raised issue were closed successfully by CME by correcting MR; hence this CAR is closed.				

Table 2. CLs from this verification

CL ID	01	**Section no.**	MR	**Date:** 16/08/2023
Description of CL				
CME is requested to clarify the following: 1. The registered VPA-DD in the general description and numerous parts as well as section A.1 of the monitoring report makes reference to 'Electric cooktop/cooker (EPC)'. However, the monitoring report makes no indication of the number of EPCs distributed as part of the project. 2. In line with the VPA-DD applicable to the monitoring period, Section C of the monitoring report, under point 2 'Project Database,' the information is found to be incomplete. 3. The value applied for '$EF_{b,fuel,nonCO2}$' and '$EF_{p,non-CO2,CH4}$', could not be found in the source provided. CME to provide the exact reference for the default value applied. Furthermore, the value '9.46' is not in accordance with the registered VPA-DD and the previous MP MR. 4. In section E.1 of the MR, under SDG 13: Climate Action, the value mentioned for '$EF_{b,fuel,nonCO2}$' is inconsistent with value stated in section D.1 for the given parameter.				
CME response				**Date: 05**/09/2023
1. The CME would like to clarify that, though the technology 'Electric Cooktop/cooker' is part of the VPA-DD, during the current monitoring period the distribution of the electric cooktop/cooker has been NIL. Once the distribution starts, the CME will start reporting it in the MR. 2. The CME has updated the section C of MR in line with the applicable VPA-DD. 3. The CME would like to clarify that for '$EF_{b,fuel,nonCO2}$' and '$EF_{p,non-CO2,CH4}$', default IPCC values are used, same has been updated in ER and MR. Though the value of 37.25 tCO2/TJ for EFb,non-CO2 has been approved by the GS/SustainCERT in the design certified VPA DD, the CME has calculated the emission reductions for the current monitoring period using IPCC value of 9.46 tCO2/TJ for EFb,non-CO2, and decided to use it instead of the design certified value of 37.25 to be more conservative. 4. The CME has updated the value of '$EF_{b,fuel,nonCO2}$' in section D.1 of monitoring report and made it consistent with E.1.				
Documentation provided by CME				
Monitoring report V2.0				

VVB assessment	**Date:** 13/10/2023
All the raised issues were closed by CME successfully by correcting MR; hence this CL is closed.	

CL ID	02	**Section no.**	MR	**Date:** 16/08/2023
Description of CL				
Following inconsistencies has been observed in the submitted monitoring report and the Emission reduction sheet: 1. The data/parameter '$EF_{b,CO2}$' and '$EF_{b,non-CO2}$' are not included in the 'Default values' tab of the ER sheet. 2. Symbols of the following data/parameters are inconsistent with symbols mentioned in the ER sheet (refer 'Default Values' and 'ER Calculation_ICS' Tab): $EF_{p,CO2}$, $EF_{p,non-CO2,CH4,}$ NCV_b and '$f_{NRB,i,y}$'. 3. Under section D.2 of the monitoring report, the value mentioned as well as the description for the data/parameter $N_{p,y}$ is inconsistent with the emission reduction sheet. CME is requested to clarify and rectify this.				
CME response				**Date:** 05/09/2023
1. The CME has updated the data/parameter '$EF_{b,CO2}$' and '$EF_{b,non-CO2}$' in the default values tab in ER sheet. 2. The CME has updated the symbols in ER sheet. 3. The CME would like to clarify that under the D.2 of the MR, the value mentioned in the description parameter Npy, stands for number of project technology distributed as in line with the VPA DD and also the applied methodology. Similarly, while applying the parameter in the ER calculation equation, the value used is 'total number of technology days in the monitoring period', this is in line with the registered VPA DD and also the applied methodology TPDDTEC version 3.1 equation 4.				
Documentation provided by CME				
Monitoring report v 2.0 and Emission reduction report v 2.0				
VVB assessment				**Date:** 13/10/2023
All the raised issues were closed by CME successfully by correcting MR; hence this CL is closed.				

CL ID	03	**Section no.**	MR	**Date:** 16/08/2023
Description of CL				
The evidence provided for SDG 8, includes a list of employees with a total of 61, which is not in line with the reported value in the monitoring report for the monitoring period. CME to clarify this.				
CME response				**Date:** 24/08/2023
The CME has updated the SDG 8 value in MR in line with the evidence provided. The value provided in the MR earlier did not take into note of the distribution agents which were added later.				
Documentation provided by CME				
Monitoring report v 2.0				
VVB assessment				**Date:** 13/10/2023
The raised issue were closed successfully by CME by correcting MR; hence this CAR is closed.				

CL ID	04	**Section no.**	MR	**Date:** 16/08/2023
Description of CL				
Section D.4 of the monitoring report: 1. The 'Project and baseline KPT' lacks the duration and dates when the baseline and project KPT was conducted for the monitoring period. 2. The number of samples provided under project and baseline KPT (45 samples) is inconsistent with the number of samples mentioned in the ER sheet in KPT results tab. Furthermore, it is unclear if the sample size stated includes both baseline and project KPT. 3. The details of calibration with details the equipment's used for KPT survey is not provided in MR section C or D.				
CME response				**Date:** 24/08/2023
1. The CME has updated the baseline survey dates in MR. Dates for project KPT is mentioned in Monitoring/Usage survey paragraph of D.4 in the MR. 2. The CME would like to clarify that the number of samples taken for usage monitoring is 218 and for KPT it is 107. And the household selected for KPT sample size are subset of usage households. 3. The details of equipment's with calibration details is provided in revised MR.				
Documentation provided by CME				
Monitoring report v 2.0				
VVB assessment				**Date:** 13/10/2023
All the raised issues were closed by CME successfully by correcting MR; hence this CL is closed.				

Annex 1: Assessment of data and parameters fixed ex-ante at the time of validation

Refer section D.5.1 of report.

Annex 2: Assessment of data and parameters monitored.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: **(as in monitoring plan of PDD):**	$P_{p,y}$
Unit	Tonnes/day
Measuring frequency/Time Interval:	Every 2 years
Reported value	0.009615
Verified Source of Data	Project Kitchen Performance Test
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: **(as in monitoring plan of PDD):**	$U_{p,y}$
Unit	Percentage
Measuring frequency/Time Interval:	Annual
Reported value	90%
Verified Source of Data	Annual usage survey

Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: **(as in monitoring plan of PDD):**	$N_{p,y}$
Unit	Project technologies credited (units)
Measuring frequency/Time Interval:	Continuous
Reported value	13,364
Verified Source of Data	Total sales record
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically	NA

possible been applied or has a request for deviation been approved?	

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: **(as in monitoring plan of PDD):**	$LE_{p,y}$
Unit	Tonnes of CO2 equivalent per year
Measuring frequency/Time Interval:	Every two years
Reported value	0
Verified Source of Data	Leakage assessment
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: **(as in monitoring plan of PDD):**	μ_y
Unit	Fraction
Measuring frequency/Time Interval:	Annual
Reported value	Value captured in the $P_{p,y}$: 90%
Verified Source of Data	Annual usage survey
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes

Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: **(as in monitoring plan of PDD):**	$P_{ep,y}$
Unit	Tonnes/day
Measuring frequency/Time Interval:	Annual
Reported value	–
Verified Source of Data	Monitored
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 13

	Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: (as in monitoring plan of PDD):	$EG_{P,d,y}$
Unit	MWh/yr
Measuring frequency/Time Interval:	-
Reported value	-
Verified Source of Data	Calculated
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: (as in monitoring plan of PDD):	$H_{P,y}$
Unit	Hours
Measuring frequency/Time Interval:	-
Reported value	-
Verified Source of Data	Calculated
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.

and are necessary QA/QC processes in place?	
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 13 Indicator 13.2.1 “Amount of CO2e emissions reduced by the project per year”
Data / Parameter: **(as in monitoring plan of PDD):**	$\eta_{new,I}$
Unit	Fraction
Measuring frequency/Time Interval:	Annual
Reported value	NA
Verified Source of Data	-WBT Test
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 1 Indicator 1.4.1 “Proportion of population living in households with access to basic services”
Data / Parameter: **(as in monitoring plan of PDD):**	$HHS_{project}$
Unit	Percentage
Measuring frequency/Time Interval:	Continuous

Reported value	90%
Verified Source of Data	1. Monitoring Database ICS distribution records 2. Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 3 Indicator 3.9.1 “Mortality rate attributed to household and ambient air pollution”
Data / Parameter: (as in monitoring plan of PDD):	$HHsmoke_{project}$
Unit	%
Measuring frequency/Time Interval:	Annually
Reported value	90%
Verified Source of Data	Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in	NA

accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 5 Indicator 5.4.1 "Proportion of time spent on unpaid domestic and care work, by sex, age and location"
Data / Parameter: **(as in monitoring plan of PDD):**	$HHtime_{project}$
Unit	%
Measuring frequency/Time Interval:	Annual
Reported value	90%
Verified Source of Data	Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 7 Indicator 7.1.2 "Proportion of population with primary reliance on clean fuels and technology"
Data / Parameter: **(as in monitoring plan of PDD):**	$HHclean_{project}$
Unit	Number
Measuring frequency/Time Interval:	Continuous
Reported value	12,027 ICS
Verified Source of Data	ICS Monitoring Database
Is measuring and reporting frequency in accordance with the monitoring	Yes

plan and monitoring methodology? (Yes / No)	
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	**Assessment/ Observation by the VVB**
Relevant SDG Indicator	SDG 8 Indicator 8.5.1 “Average hourly earnings of female and male employees, by occupation, age and persons with disabilities”
Data / Parameter: (as in monitoring plan of PDD):	$EG_{project}$
Unit	Number
Measuring frequency/Time Interval:	Continuous
Reported value	61
Verified Source of Data	Employment Records, CME Database
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically	NA

possible been applied or has a request for deviation been approved?	

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 12 Indicator 12.2.2 "Domestic material consumption, domestic material consumption per capita and domestic material consumption per GDP"
Data / Parameter: **(as in monitoring plan of PDD):**	$FC_{project}$
Unit	Tonnes/HH/annum
Measuring frequency/Time Interval:	Annually
Reported value	1.59
Verified Source of Data	Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and calibration as per the requirements of registered PDD:	NA
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Relevant SDG Indicator	SDG 15
Data / Parameter: **(as in monitoring plan of PDD):**	$FCHH_{project}$
Unit	Tonnes eq.fuelwood/day
Measuring frequency/Time Interval:	Annually
Reported value	0.009615
Verified Source of Data	Ex- post Monitoring Survey Records
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Assessment of details of monitoring equipment, its specification and	NA

calibration as per the requirements of registered PDD:	
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and all necessary QA/QC processes are in place
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA