




**Verification and certification report form for
CDM programme of activities
(Version 04.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title and UNFCCC reference number of the programme of activities (PoA)	Fuel Efficient Stoves in Africa UNFCCC PoA reference number: 6864		
Version number(s) of the PoA-DD(s) to which this report applies	Version 8.5		
Version number of the verification and certification report	Version 2.0		
Completion date of the verification and certification report	15/10/2021		
Monitoring period number and duration of this monitoring period	01 01/07/2020 – 31/12/2020 (both dates inclusive)		
Number and version number of the monitoring report to which this report applies	Monitoring Report Number: 3 Version: 1.3 (Dated: 13/10/2021)		
Coordinating/managing entity (CME)	3 Rocks Ltd.		
Host Parties	Host Parties of the PoA	Is this a host Party to a CPA covered in this report? (yes/no)	
	Zambia	Yes	
Applied methodologies and standardized baselines	AMS II.G version 10 - Energy efficiency measures in thermal applications of non-renewable biomass.		
Mandatory sectoral scopes	3: Energy demand		
Conditional sectoral scopes, if applicable	Not Applicable		
Estimated amount of GHG emission reductions or GHG removals for this monitoring period in the included CPAs covered in this report	50,146 tCO ₂ e		
Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs covered in this report	Amount before 1 January 2013	Amount from 1 January 2013 until 31 December 2020	Amount from 1 January 2021
	0	29,267	0
Name and UNFCCC reference number of the DOE	Carbon Check (India) Private Ltd. E-0052		
Name, position and signature of the approver of the verification and certification report	Vikash Kumar Singh, Compliance Officer 		

SECTION A. Executive summary

Introduction:

The Coordinating Managing Entity (CME) has appointed the DOE, Carbon Check (India) Private Ltd. (CC IPL) to perform an independent first (1st) periodic verification of the CDM Programme of Activities “Fuel Efficient Stoves in Africa”. (hereafter referred to as “Programme of Activities” or “PoA”) for the CPA(s) titled “Fuel Efficient Stoves In Zambia (Korea Carbon Management Ltd. CPA No.02)” with UNFCCC reference number(s) 6864-P2-0006-CP1. The PoA helps in reducing the emissions of greenhouse gases by distribution of the fuel-efficient cook stoves in individual households of Zambia. The fuel-efficient cook stoves are replacing the traditional three-stone/rock stoves that were being used in the baseline scenario.

During the current monitoring period for the monitoring report number 3, only one CPA (6864-P2-0006-CP1.) is claiming the emission reductions. As this is a batched issuance request, other CPA (6864-P2-0007-CP1), 6864-P1-0001-CP1, 6864-P1-0002-CP1, 6864-P1-0003-CP1, and 6864-P1-0004-CP1, 6864-P1-0005-CP1 included in the PoA are not claiming emission reductions in the monitoring report number 3. The CME is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the component project activities.

This report summarises the findings of the verification of the project, performed on the basis of paragraph 62 of the CDM Modalities & Procedures, as well as criteria given to provide for consistent project operations, monitoring and reporting and the subsequent decisions by the CDM Executive Board. Verification is required for all registered CDM 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 certified emission reductions.

Objective:

Verification is the periodic independent review and ex-post determination of both quantitative and qualitative information by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registered CDM project activity during a defined monitoring period.

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

The objective of this verification was to verify and certify emission reductions reported for the Fuel Efficient Stoves in Africa” for the period 01/07/2020 – 31/12/2020 (both dates inclusive)

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 used to confirm the reductions in anthropogenic emissions by sources, is sufficient, definitive and presented in a concise and transparent manner. CC IPL’s objective is to perform a thorough, independent assessment of the registered programme of activities.

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

Scope:

The scope of the verification is:

- To verify the project implementation and operation with respect to the registered/included CPA-DD.
- To verify the implemented monitoring plan with the registered/included CPA-DD and the 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.

The verification comprises a review of the monitoring report over the monitoring period from 01/07/2020 – 31/12/2020 and based on the registered/included CPA-DD in part of the monitoring parameters and monitoring plan, emission reduction calculation spreadsheet, monitoring methodology and all related evidence provided by the CME.

Stakeholders' interviews are also performed as part of the verification process.

The verification team assigned by the DOE concludes that the registered PoA-DD (version 8.5 dated 03/03/2020) /B04-1/, Component Project Activity 6864-P2-0006-CP1 as described in the registered CPA-DD (Version 01.2, dated 18/06/2020) /B04/ and monitoring report (version 1.3, dated 13/10/2021) /2/, meets all the relevant requirements of the UNFCCC for CDM project activities including article 12 of the Kyoto Protocol and paragraph 62 of CDM M& P, the modalities and procedures for CDM (Marrakesh Accords) and the subsequent decisions by the COP/MOP and CDM Executive Board. The verification has been conducted in-line with the requirements of CDM VVS for PoAs (version 03.0) /B01-1/.

The component project activity was correctly implemented according to the selected monitoring methodology, monitoring plan and the approved revised CPA-DD(s). 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 review and remote audit, the verification team confirms that the PoA has resulted in the 29,267 tCO₂e emission reductions during the first (1st) monitoring period.

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader/ Technical Expert	IR	Anand	Amit	CC IPL	X	NA	X	X
2.	Trainee Assessor	IR	Choudhary	Aparna	CC IPL	X	NA	X	X
3.	Local Expert	ER	Msoni	Joyce	CC IPL		NA		

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 DOE or outsourced entity)
1.	Technical reviewer	IR	Agarwalla	Sanjay Kumar	CC IPL
2.	Approver	IR	Singh	Vikash Kumar	CC IPL

SECTION C. Application of materiality in conducting the verification**C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human Error: Recording and reporting of the information in the ER spreadsheet.	Medium	All the ER spreadsheet data of the stoves, including sales database, determination of parameter for efficiency testing including data calculation. This includes all the parameters to be monitored ex-post as per the PoA-DD/CPA-DDs/B04/.	The risk was mitigated by reviewing the training of the personnel involved in the data capture, calculation and by following the monitoring responsibilities. The training records were reviewed which will also be confirmed during the interviews.
2.	Information System: Use of mobile application/ spreadsheets without adequate controls related to data changes/updates, version tracking, traceability, security	Medium	The data is recorded through an application and then data is stored in the servers. The data can then be fetched through spreadsheets based on the raw data collected during the field visits. The access to the application/ spreadsheets for calculation of ERs,	The identified risk was mitigated by reviewing the management of access to the records. It was confirmed through interviews whether the raw data is collected by the field personnel and then transmitted and stored electronically to the CME's office. The data quality control was checked.

			<i>monitoring and sales database and Stove efficiency testing records.</i>	
3.	<i>Accuracy of the measuring equipment</i>	<i>Low</i>	<i>Check the calibration records for the measurement equipment used for efficiency test.</i>	<i>The risk due to accuracy of the measuring equipment was be ensured by planning to check calibration records/ calibration certificates of the measuring equipment used for stove efficiency (water boiling tests).</i>
4.	<i>Competence of personnel involved in conducting standardized tests viz., WBT</i>	<i>Medium</i>	<i>Interview of the personnel involved and check the training records / accreditation certificates (applicable in case of institutions) involved in conducting such tests.</i>	<i>The risk was mitigated by reviewing the training records of the personnel involved in conducting such tests and by following the monitoring responsibilities. For institutions involved in conducting such tests their accreditation certificates will be checked to establish their competence for conducting such tests. The training records and certificates were reviewed which was also be confirmed during the remote interviews.</i>
5.	<i>Sample</i>	<i>Medium</i>	<i>Sample size is not suitable; or the surveyed households at the CPA level are not random.</i>	<i>Crosscheck the procedure to identify the sample size against the methodology/ sampling guideline / sampling standard and confirm the sample size is calculated correctly.</i>

C.2. Consideration of materiality in conducting the verification

The threshold of materiality was evaluated based on §13 of “Guideline: Application of materiality in verifications” (version 02.0) /B08/ and § 306 (d) of CDM VVS for PoAs (version 03.0) /B01-1/. It was concluded that the materiality threshold applicable to the project activity based on actual emission reductions achieved is 5% of 29,267 tCO₂e which is equal to 1,463 tCO₂e.

In planning the verification, verification team took cognizance of §11 and § 12 of the “Guideline: Application of materiality in verifications” (version 02.0) /B08/. A materiality threshold of 1463 tCO₂e is determined in line with § 306 (d) of CDM VVS for PoAs (version 03.0) /B01-1/.

The verification has been performed through a desk review and remote inspection and interviews including interviews with relevant personnel. The verification activities in which risks were assessed are the evaluations of:

1. Monitoring system including monitoring surveys (for determination of $N_{y,i,j}$, μ_y , $\eta_{new,i,j}$ and $N_{d,hh}$)
2. Copy of the agreement between household and Project Participant (s) (origin of data)
3. Stove unique ID system
4. ER sheet (application of data)
5. Data flow
6. Data control procedures
7. Stove efficiency test (WBT) records

The risks identified were mitigated through the review of whole databases /06/ and calculation spreadsheets /04/ and cross-check against monitoring survey records /05/ and interview with relevant stakeholders during remote audit interviews.

In conducting the verification, DOE took cognizance of §13-17 of the “Guideline: Application of materiality in verifications” (version 02.0) /B08/ and based on the input of data from different sources checked through sampling of records during remote audit and inspection. Some mistakes were identified and subsequently corrected. 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.

Based on the assessment carried out, CCIPL confirms with a reasonable level of assurance that the claimed emission reductions are free from material errors, omissions or misstatements.

SECTION D. Means of verification

D.1. Desk/document review

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/B04/ and monitoring methodology /B02/. Documents reviewed or referenced during the verification are listed in Appendix 3 below.

D.2. On-site inspection

On-site visit for the current verification was not performed due to travel restrictions imposed globally due to COVID-19 pandemic impact. DOE also noted CDM EB's decision at its 110th meeting, further agreed to extend the period in which DOEs may apply alternative measures of validation/verification to mandatory on-site inspections until 31 December 2021 because of COVID-19 (https://cdm.unfccc.int/newsroom/latestnews/releases/2020/01041_index.html).

The verification team has carried out remote interviews (by telephone / skype/ video calls) in order to assess the information included in the monitoring report and monitoring measurement procedures adopted during the monitoring period on 17/08/2021 – 18/08/2021. During the desk review, the relevant monitoring records were checked. Previous periodic monitoring reports and verification reports and soft copy of original survey records were used to cross check consistency of information.

Through the review of validation reports, previous verification reports, comparing the relevant evidence and interview with the CME's representatives through telephone / skype, remote interviews with the households sampled by the DOE from the CME's samples, CCIPL has confirmed that the project is implemented in line with the approved revised PoA-DD/CPA-DD during the monitoring period. There is no change of the project design, operation and monitoring plan.

Duration of Remote inspection: 17/08/2021 to 18/08/2021				
No.	Activity performed on-site	Site location	Date	Team member
1.	An assessment of the implementation and operation of the registered project activity as per the registered PoA-DD, included CPA-DDs.	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce.
2.	A review of information flows for generating, aggregating and reporting the monitoring parameters	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce
3.	Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the CPA-DDs	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce
4.	A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce
5.	A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the CPA-DD and the selected methodology and corresponding tool(s), where applicable	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce
6.	A review of calculations and assumptions made in determining the GHG data and emission reductions	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce
7.	An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce
8.	Interview of the end-users regarding the following: <ul style="list-style-type: none"> Confirmation for the information as contained in the monitoring survey questionnaires Drop-out of the household from the technology and the stove usage Baseline scenario (stove type) used and continued usage (if applicable) Usage pattern of the project stove Proportion of project stove and other stove in the total usage (number of meals cooked) WBT household	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce
9.	Interviews of the WBT and monitoring survey personnel for the WBT process	Remote Audit	17/08/2021 to 18/08/2021	Amit Anand, Aparna Choudhary and Msoni Joyce

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Winklehner	Thomas	KCML (CPA implementer)	17/08/2021 to 18/08/2021	Project implementation and operation,	Amit Anand, Aparna Choudhary &

					monitoring procedure, data and information flow, Roles and responsibility, Quality Assurance – Management and operating system, Distribution records, Survey records, WBT, Training Qualification and Training, CER calculation and completeness of monitoring report, compliance of monitoring plan with monitoring methodology and approved revised CPA-DDs.	Joyce Msoni
2.	Naik	Saanaee	GGIPL	17/08/2021 to 18/08/2021	ICS distribution system, usage demonstration, user feedback, monitoring, data and information flow survey	Amit Anand Aparna Choudhary & Joyce Msoni
3.	Juneja	Neha	GGIPL	17/08/2021 to 18/08/2021	ICS distribution system, usage demonstration, user feedback, monitoring, data and information flow survey	Amit Anand Aparna Choudhary & Joyce Msoni
4.	Sweeey	Daniel	MIT	17/08/2021 to 18/08/2021	WBT procedures and results	Amit Anand Aparna Choudhary & Joyce Msoni
5.	Shimaingo	Robert	Kafue Innovation Centre	17/08/2021 to 18/08/2021	WBT procedures and results	Amit Anand Aparna Choudhary & Joyce Msoni
6.	Phiri	Shadrack	World Vision International	17/08/2021 to 18/08/2021	ICS distribution system, usage demonstration, user feedback, monitoring survey	Amit Anand Aparna choudhary & Joyce Msoni
8.	Mwanza	James	Kasanka Trust	17/08/2021 to 18/08/2021	ICS distribution system, usage demonstration, user feedback, monitoring survey	Amit Anand Aparna Choudhary & Joyce Msoni

D.4. Sampling approach

PP has implemented single sampling plan across two CPAs (6864-P1-0005-CP1 and 6864-P2-0006-CP1) and the same is justified as both the CPAs are monitored are homogeneous with respect to the technology distributed (Greenway Jumbo stoves), the end-users (households) and the geographical area where the cookstoves have been distributed i.e., within the boundaries of host country (Zambia).

The total population size of the improved cookstoves (ICS's) distributed under the two CPAs and covered under monitoring period is 62,188. The CPA wise details of number of cookstoves distributed are as:

CPA Name	CPA number	Total number of ICS
Fuel Efficient Stoves in Zambia – Korea Carbon Management Ltd. CPA No.1	6864-P1-0005-CP1	20,000
Fuel Efficient Stoves in Zambia (Korea Carbon Management Ltd. CPA No.02)	6864-P2-0006-CP1	42,188

The total population of the stoves under the CPA (6864-P2-0006-CP1) applicable for monitoring is 42,188.

The parameters for which PP has calculated sample size is described below.

Parameters	Calculated Sample Size	Sample size after applying students t-distribution	Sample size covered during monitoring period	DOE Sample Size	Precision level	Achieved Precision	Condition Met(Y/N)
$N_{y,i,j}$	12	N/A	37	8	10%	0.00%	Y
$\mu_{y,i}$	12	N/A	37	8	10%	6.42%	Y
η_{new}	03	14	18	8	10%	2.31%	Y

Single sampling plan across two CPAs was applied by the CME for selection of the monitoring samples with 95/10 confidence/precision (In line with §23 of the Sampling Standard (version 07.0) /B11/, In the case of CPAs solely composed of “microscale CDM units” as defined in the Methodological tool 19, 95/10 confidence/precision shall be applied for sampling surveys in all cases, even when they are conducted at the CPA level) for all the three parameters for annual monitoring in the applicable CPA (6864-P2-0006-CP1) included in the PoA which is deemed acceptable, as per the registered PoA-DD /CPA-DD. It is to be noted that the monitoring of parameters for the applicable CPA (6864-P2-0006-CP1) is for a period of less than 1 year (01/07/2020 – 31/12/2020 only), thus annual frequency is appropriate. Please refer to the section E.3.4.3 of this report on detailed assessment on sampling plan opted by the CME.

As per §25 of the Sampling Standard (version 09.0) /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:

- Whether the required confidence/precision has been met
- Whether the selected sample was representative of the population.

In line with §26 of the Sampling Standard (version 09.0) /B07/, the verification team has applied an acceptance sampling approach for remote surveys as part of verification. Now as the CME had applied sampling approach, the verification team has chosen acceptance sampling for ASG and ESG parameter in accordance with §28 of the sampling standard /B07/.

The following table illustrates the agenda covered during the acceptance sampling by the DOE in accordance with Table 1, §37 of “Standard: Sampling and surveys for CDM project activities and programmes of activities (version 09.0):

Parameter	How the CME conducted sampling surveys (to obtain the project participants' or the coordinating/managing entities' records)	How the DOE could obtain records for verification	Criteria for deciding what ultimately constitutes a discrepancy
Number of stoves still operation during the monitoring period ($N_{y,i,j}$)	Sampling based survey (questionnaire survey/interviews)	<p>Cross-check of a sample of project participants' samples (Questionnaire, operation surveys/interviews) including but not limited to following:</p> <ul style="list-style-type: none"> Consistency between the information as contained in Survey sheet and revealed from the on-site inspection interviews Baseline scenario of the household Enquire/observe the pre-project/baseline stove/s and its operation during the project scenario. Enquire/observe parallel use of any other stove and their fuel Enquire/observe source /storage of fuelwood/charcoal or any other fuel Enquire number of meals cooked (along with family size of household) on project cook stove or any other baseline and/or stoves utilizing other fuel/s. Quantity of biomass saved per stove 	DOE results, accounting for duly justified differences.
Thermal efficiency of the stove ($\eta_{new,i}$)	Water Boiling Test as the procedure allowed for efficient test prescribed by applied CDM methodology	Check the test reports/methods; check qualifications/ capabilities of testers; Witnessing of testing	Whether conducted by qualified institutions/testers; Whether conducted in accordance with approved established international/national standards, procedures and test methods prescribed by applicable CDM methodologies.
Quantity of biomass saved per stove per annum ($\mu_{y,i}$)	Sampling based survey (questionnaire survey/interviews)	<ol style="list-style-type: none"> Confirmation with the household which method i.e. undertook measurement or questionnaires or interviews without measurement was used. If it is solely based on questionnaires or interviews whether the following conditions are satisfied in the household: <ol style="list-style-type: none"> Pre-project devices 	Cross check the results obtained by the CME and those revealed from the DOE's interviews, account for duly justified differences.

		<p>have been completely decommissioned and only efficient project devices are exclusively used in the project households.</p> <p>(b) If multiple devices are used in the project, it is possible from the results of the survey questions to clearly differentiate the quantity of woody biomass being used by each device.</p> <p>3. Confirmation on the consumption by the households on daily/weekly/monthly basis</p>	
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The verification team of the DOE has applied a sampling approach for remote audit and inspection as part of verification in accordance with the §26 of the Standard: Sampling and surveys for CDM project activities and programmes of activities (version 09.0) /B07/. In accordance with the §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 have been followed. Considering that Zambia is a Least Developed Country (LDC), applying §39 (c) of the sampling standard (version 09.0) /B07/, a sample size for 8 households was chosen (with no non-responses). A sample size of 8 was required, based on an AQL of 0.5 % and UQL of 20 %, the producer risk used is 10 % and consumer risk used was 20 %. Acceptance number (c) thus determined for the sample is 0.

Accordingly, the verification team verified a total of eight (08) households and observed that the sampling survey results of the PP for all the households checked were found to be consistent with DOE's field survey results. Thus, no discrepant records were observed with the published MR /01/ and ER sheet /02/ and thus $c=0$. Hence, PP's set of records has been accepted in line with §33 of the sampling standard (version 09.0) /B07/. For parameters $N_{y,i,j}$ and $\mu_{y,i}$, a common interview questionnaire was prepared and was used during the survey by the PP. Households in the usage/monitoring survey were asked about the type of baseline stove replaced by the project stove, number of baseline stoves replaced, number of ICS distributed per household, the number of eaters for whom the meal is cooked, type of meal cooked, source of firewood, whether they use the project stove and if yes for how many meals they use the project stove and for how many meals they use baseline stove or other improved stoves using woody biomass. Verification team has cross verified these sample documents during the remote audit.

For the SESG parameter (thermal efficiency of the stoves - $\eta_{new,i}$) WBT were conducted. As the monitoring parameter under consideration is determined by standardized test procedures, the QA/QC and calibrations are at the test conduction by the measuring team. Accordingly, the verification team has focused on abilities, qualifications and recognition of personnel involved in the WBT. Through the interview of personnel responsible for carrying out WBT, it was ascertained that the personnel are competent to carry out the standardized tests and follow the instructions and requirements of protocol /15/ for carrying out such tests. Furthermore, the Verification Team also reviewed the training records /13/ of the personnel and ascertained that they are trained before undertaking the WBT to refresh their skills. The monitoring equipment used for conducting the stove efficiency tests are weighing scale, thermometer and moisture meter. All the equipment was newly purchased before the WBTs were performed and their purchase receipts /12/ were checked by the verification team. Furthermore, 8 households, where the WBTs were conducted has confirmed /05/, /06/, /19/ that the WBT was performed at their households by the representatives of CPA implementer.

The sampling plan implemented by the CME is in accordance with the applied approved monitoring methodology /B02/ and the PoA-DD/CPA-DD /B04/. The CME has appropriately performed Simple Random Sampling procedure in line with the applied methodology and best suited for this type of project. As the registered PoA-DD /B04/ mentions the option for Simple single sampling plan, it is acceptable to the verification team.

The necessary confidence / precision of 95/10 of the parameters $N_{y,i,j}$, $\mu_{y,i}$ and η_{new} is met. This has been cross verified by the verification team from the supporting documents submitted /04/.

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
General	-	-	-
Compliance of the monitoring report with the monitoring report form	-	-	-
Remaining forward action requests from validation and/or previous verifications	-	-	-
CPAs considered for verification and covered in this report	-	-	-
Programme of activities	-	-	-
Compliance of the programme implementation with the registered PoA-DD	-	-	-
Implementation and operation of the management system	CL 02	-	-
Post-registration changes	-	-	-
• Corrections	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents ¹	-	-	-
• Changes to the programme design	-	-	-
• Addition of CPA inclusion template	-	-	-
• Change of coordinating/managing entity	-	-	-
• Changes specific to afforestation and reforestation activities	-	-	-
Component project activities	-	-	-
Compliance of the CPA implementation with the included CPA design document	-CL 01	-	-
Post-registration changes	-	-	-
• Temporary deviations from registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	-	-	-
• Corrections	-	-	-
• Changes to the start date-of the crediting period	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	-	-	-
• Changes to the project design	-	-	-
• Changes specific to afforestation and reforestation activities	-	-	-
Compliance of the registered monitoring plan with applied	-	-	-

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).

methodologies and standardized baselines			
Compliance of monitoring activities with the registered monitoring plan	-	-	-
<ul style="list-style-type: none"> Data and parameters fixed ex ante or at renewal of crediting period 	-	-	-
<ul style="list-style-type: none"> Data and parameters monitored 		-	-
<ul style="list-style-type: none"> Implementation of sampling plan 		-	-
Compliance with the calibration frequency requirements for measuring instruments	-	CAR 01	-
Assessment of data and calculation of emission reductions or net removals	-	-	-
<ul style="list-style-type: none"> Calculation of baseline GHG emissions or baseline net GHG removals by sinks 	CL02	-	-
<ul style="list-style-type: none"> Calculation of project GHG emissions or actual net GHG removals by sinks 	-	-	FAR 01
<ul style="list-style-type: none"> Calculation of leakage GHG emissions 	-	-	-
<ul style="list-style-type: none"> Summary of calculation of GHG emission reductions or net GHG removals by sinks 	-	-	-
<ul style="list-style-type: none"> Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA 	-	-	-
<ul style="list-style-type: none"> Remarks on difference from estimated value in included CPA 	-	-	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Others (please specify)	-	-	-
Total	03	01	01

SECTION E. Verification findings

E.1. General

E.1.1. Compliance of the monitoring report with the monitoring report form

Means of verification	DR,
Findings	
Conclusion	<p>CME has used the Monitoring report form for CDM programme of activities, Version 04.0 /B03/. Verification team confirms that the latest available version of monitoring report /02/ has been used by the CME and the MR is in compliance of the monitoring report form with the relevant form and instructions therein /B03/.</p> <p>CC IPL, had made the version 1.0, dated 22/07/2021 of the monitoring report /01/, covering the monitoring period from 01/07/2020 – 31/12/2020 (both days inclusive) publicly available on 28/07/2021.</p> <p>This confirms compliance with the §336 and §337 of CDM VVS for PoAs, version 03.0 /B01-1/.</p>

E.1.2. Remaining forward action requests from validation and/or previous verifications

01 FAR was raised during the validation of the CPA, that has been closed by the verification team. The details of the same is provided in the Appendix 4 below.

E.1.3. CPAs considered for verification and covered in this report

Title and UNFCCC reference number of the CPA included in the PoA as of the end of this monitoring period	Is the CPA considered for this verification? (yes/no)	The date when the CPA was included	Version of the PoA-DD	Confirmation that a request for issuance including the CPA has been published for the previous monitoring period (Y/N)
6864-P1-0001-CP1: Fuel Efficient Stoves in Zambia (3RL CPA No.01)	No	28/01/2013	Version 6.2	N
6864-P1-0002-CP1: Fuel Efficient Stoves in Zambia (3RL CPA No.02)	No	25/10/2013	Version 6.2	N
6864-P1-0003-CP1: Fuel Efficient Stoves in Zambia (3RL CPA No.03)	No	01/11/2013	Version 6.2	N
6864-P1-0004-CP1: Fuel Efficient Stoves in Zambia (Korea Carbon Offsets Ltd. CPA No.01)	No	04/10/2019	Version 7.2	Y
6864-P1-0005-CP1: Fuel Efficient Stoves in Zambia – Korea Carbon Management Ltd. CPA No.1	No	23/01/2020	Version 7.2	Y
6864-P2-0006-CP1: Fuel Efficient Stoves in Zambia (Korea Carbon Management Ltd. CPA No.02) Version 1.2 Dated: 18/06/2020	YES	30/06/2020	8.5	N
6864-P2-0007-CP1: Fuel Efficient Stoves in Zambia (Korea Carbon Offsets Ltd. CPA No.02) Version 02.0 Dated: 24/06/2020	NO	06/07/2020	8.5	N

E.2. Programme of activities**E.2.1. Compliance of the programme implementation with the registered programme design document**

Means of verification	DR, I
Findings	-

<p>Conclusion</p>	<p>CC IPL by means of a remote audit (interviews) and document review, assessed that all physical features (technology, project equipment, and monitoring equipment) of the included CPA in the registered PoA-DD/B04/ are in place and that the coordinating/managing entity has operated the PoA and the CPA as per the registered PoA-DD and the CPA-DD/B04/.</p> <p>A remote audit was conducted by CC IPL in accordance with the communication from CDM Executive Board to relax mandatory site visits by DOEs because of COVID-19 /B05/.</p> <p>Accordingly, as prescribed in the communication from CDM EB, the steps provided in the §10.1.3 of the VVS for the PoAs, version 03/B01-1/, were followed:</p> <ol style="list-style-type: none"> a) The document review was conducted in accordance with the §318 (a) of the VVS for the PoAs, version 03/B01-1/ b) As the site visit could not be performed by the verification team leader, following steps were undertaken to assess the requirements in the §318 (b) of the VVS for the PoAs, version 03/B01-1/: <ol style="list-style-type: none"> I. an assessment of the implementation and operation of the included CPA was done based on the review of the monitoring report and interviews with the CME, project participants and the end user households. The interviews were conducted through Google meet applications and thus the project devices, the monitoring equipment was also checked by the verification team through web conferencing. The interviews with households were facilitated by the local expert through telephonic calls and images of the project devices taken. II. A review of information flows for generating, aggregating and reporting the monitoring parameters was done based on the interviews with the CME/ PP representatives and CME provided a walkthrough of the monitoring system to the DOE verification team. III. Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the registered monitoring plan – This was done based on the interviews with the personnel responsible for data collection and other monitoring personnel. IV. Cross checks between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources – This was done based on the cross checks between different data sources including the ER sheet/04/, snapshot of the monitoring database, WBT records/10/ and sampling records/05. V. A check of the monitoring equipment and observations of monitoring practices against the requirements of the included CPA-DD, the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents; This was performed based on the review of the technical details and purchase records of all the monitoring equipment used for WBT/11/ and the competence of monitoring personnel was checked based on training records/09/ and interviews. VI. A review of calculations and assumptions made in determining the GHG data and GHG emission reductions or net anthropogenic GHG removals – Calculations in the ER sheet/04/ were checked, and the assumptions made in the CPA-DD/B04/ and MR/02/ were checked by the verification team. VII. An identification of quality control and quality assurance procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters – The QA/QC procedures were checked through interviews with the CME/PP and the review system used by the CME was confirmed. The competency and training details of the monitoring personnel were also checked /09/. c) The sampling approach was assessed in accordance with the §318(c) of the VVS for the PoAs, version 03/B01-1/, based on the sampling standard, version 09. /B07/. Interviews with the end user households were facilitated by the local expert through telephonic calls with the sampled household.
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	<p>There are no deviations or proposed or actual changes in the implementation or operation of the PoA and the included CPA.</p> <p>The verification team confirms actual operation of the CPA and PoA implementation and operation in compliance with the registered PoA-DD / CPA-DD in order to confirm the compliance of §252 of the CDM PS for PoA (version 03.) /B01-2/ and §338 (a) and §339 of CDM VVS for PoA (version 03.0) /B01-1/.</p>
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E.2.2. Implementation and operation of the management system

Means of verification	DR,I
Findings	-
Conclusion	<p>The PoA management system including the record-keeping system has been explained in the registered PoA-DD /B04/. During the course of verification, verification team based on review of provided documents and remote audit interviews has assessed this management system. Verification team evaluated that the management systems is in place to implement the monitoring plan as stated in the registered PoA-DD and the included CPA-DD/B04/. This included the roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system.</p> <p>As outlined in section B of PoA-DD /B04/ and section B.1 of the MR, monitoring is being done by the CME i.e., 3 Rocks Ltd. (3RL) by means of monitoring database. The data is further periodically checked by the CME to ensure there is no double counting.</p> <p>It was confirmed through the interviews during remote audit and by checking the monitoring system that the representatives of CME fulfil the roles and responsibilities related to the monitoring. Korea Carbon Offsets Ltd. (KCOL) and its local partners fulfil the responsibilities assigned to the CPA implementer in accordance with the CPA-DD/B04/ and the MR/02/.</p> <p>The responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan /B04/.</p> <p>The details about monitoring system have been provided in the Section B.1 of the monitoring report /02/. The data flow and management and reporting structure was also checked during remote audit.</p> <p>The roles and responsibilities of data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system have been provided in section B.1 of the MR /02/.</p> <p>The verification team confirms that the monitoring management system of the CDM PoA is in place; with the responsibilities properly identified and in place. This confirms the compliance of § 345 (b) (iv) and § 345 of CDM VVS for PoA (version 03.0) /B01-1/.</p>

E.2.3. Post-registration changes

E.2.3.1. Corrections

Not Applicable

E.2.3.2. Inclusion of a monitoring plan

Not Applicable

E.2.3.3. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

PRC ref No.: PRC-6864-004.

Date of approval: 23/10/2020 (Effective approval date: 21/10/2020)

Details can be found at: <https://cdm.unfccc.int/PRCContainer/DB/prcp115805774/view>

E.2.3.4. Changes to the programme design

PRC ref No.: PRC-6864-004.

Date of approval: 23/10/2020 (Effective approval date: 21/10/2020)

Details can be found at: <https://cdm.unfccc.int/PRCContainer/DB/prcp115805774/view>

E.2.3.5. Addition of CPA inclusion template

Not Applicable

E.2.3.6. Change of coordination/managing entity

Not Applicable

E.2.3.7. Changes specific to afforestation and reforestation activities

Not Applicable

E.3. Component project activities

E.3.1. Compliance of the CPA implementation with the included CPA design document

Means of verification	DR,I																																						
Findings	-																																						
Conclusion	<p>The implementation status of the PoA and the component project activity applicable under the monitoring period is:</p> <table border="1"> <thead> <tr> <th>CPA Ref. No.</th><th>CPA 6864-P2-0006-CP1:</th></tr> </thead> <tbody> <tr> <td>Coordinating & Managing Entity</td><td>3 Rocks Ltd</td></tr> <tr> <td>CPA Implementer</td><td>Korea Carbon Management Ltd.</td></tr> <tr> <td>Host County</td><td>Zambia</td></tr> <tr> <td>Scale</td><td>Small</td></tr> <tr> <td>Inclusion Date</td><td>30/06/2020</td></tr> <tr> <td>Crediting Period Type</td><td>Fixed</td></tr> <tr> <td>Crediting Period Duration</td><td>01/07/2020 to 31/06/2027</td></tr> <tr> <td>Monitoring period number</td><td>01</td></tr> <tr> <td>Monitoring period duration</td><td>01/07/2020 to 31/12/2020</td></tr> <tr> <td>Model of ICS</td><td>Greenway Jumbo</td></tr> <tr> <td>No. of ICS to be distributed as per CPA-DD</td><td>30,000</td></tr> <tr> <td>Ex-ante estimated ERs in CPA-DD (tCO₂e/yr)</td><td>99,475</td></tr> <tr> <td>Per unit ER (ex-ante) (tCO₂e/unit/yr)</td><td>3.31</td></tr> <tr> <td>Ex-ante estimated ERs corresponding to the length of the current MP (tCO₂)</td><td>50,146</td></tr> <tr> <td>Per unit ERs (ex-ante) corresponding to the length of the current MP (tCO₂/unit)</td><td>1.7</td></tr> <tr> <td>No. of ICSs distributed in the current MP</td><td>42,188</td></tr> <tr> <td>Actual ERs achieved during current monitoring period (tCO₂e)</td><td>29,267</td></tr> <tr> <td>Per unit ERs achieved during current monitoring period (tCO₂e/unit)</td><td>0.7</td></tr> </tbody> </table> <p>The PoA helps in reducing the emissions of greenhouse gases by distribution of the fuel-efficient cook stoves in individual households of Zambia. The fuel-efficient cook stoves are replacing the traditional three-stone/rock stoves that were being used in</p>	CPA Ref. No.	CPA 6864-P2-0006-CP1:	Coordinating & Managing Entity	3 Rocks Ltd	CPA Implementer	Korea Carbon Management Ltd.	Host County	Zambia	Scale	Small	Inclusion Date	30/06/2020	Crediting Period Type	Fixed	Crediting Period Duration	01/07/2020 to 31/06/2027	Monitoring period number	01	Monitoring period duration	01/07/2020 to 31/12/2020	Model of ICS	Greenway Jumbo	No. of ICS to be distributed as per CPA-DD	30,000	Ex-ante estimated ERs in CPA-DD (tCO₂e/yr)	99,475	Per unit ER (ex-ante) (tCO₂e/unit/yr)	3.31	Ex-ante estimated ERs corresponding to the length of the current MP (tCO₂)	50,146	Per unit ERs (ex-ante) corresponding to the length of the current MP (tCO₂/unit)	1.7	No. of ICSs distributed in the current MP	42,188	Actual ERs achieved during current monitoring period (tCO₂e)	29,267	Per unit ERs achieved during current monitoring period (tCO₂e/unit)	0.7
CPA Ref. No.	CPA 6864-P2-0006-CP1:																																						
Coordinating & Managing Entity	3 Rocks Ltd																																						
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the baseline scenario. The PoA is implemented by 3 Rocks Ltd., who is the coordinating/managing entity (hereafter referred to as "CME") and the (CPA 6864-P2-0006-CP1:) is implemented by Korea Carbon management Ltd., who is the CPA implementer (CPAI). ICS disseminated under the PoA must have a thermal efficiency greater than or equal to 20%. In this CPA, Greenway Jumbo model of ICS has been distributed by the CPAI as presented in the table above. The ICS under this CPA have been distributed only to individual households. The technical details of the ICS were verified by the manufacturer specifications /07/ and was found to be consistent with the approved PoA-DD / CPA-DD /B04/.

The exact stove's locations could be verified from the monitored stove distribution database /06/ and sample sales receipts ICS beneficiary agreements /09/ of each ICSs under the implemented CPAs

The information (including data and variables) provided in the MR /02/ is in line with the details provided in the included approved CPA-DD /B04/.

Based on above assessment, verification team confirms that the component project activities were implemented, and equipment installed as described in the included approved CPA-DD /B04/.

The stove sales beneficiary agreement between CPAI and end-user /09/ has a provision, which gives exclusive rights of the CERs for CME CPAI and the recipient households provide their consent to transfer all the ERs generated through the use of ICS to the CME CPAI by signing the end-user agreement /09/. Operation of the devices is confirmed during the remote inspection and interview by the verification team. Followings were verified at the project site:

1. Stoves numbering system
2. Electronic monitoring system including input procedure
3. Actual distribution / implementation of the stoves
4. Household-representatives were interviewed regarding the usage of stove
5. Whether or not baseline technology was still in use
6. Process of data collection during installation of stove
7. Agreements between households and the CPA implementer

Verification team has assessed the project to check any proposed or actual changes to the project design in accordance with §267 of CDM VVS for PoAs (version 03.0) /B01-1/. In the opinion of CCIPL, there is no change to the project design. CCIPL's verification team confirms that the CPA is implemented within the boundary of the PoA as described in the approved PoA-DD /B04/ and the implementation and operation of the project activity has been conducted in accordance with the description contained in the approved PoA-DD and CPA-DD /B04/.

In accordance with §340 (c) of CDM VVS for PoAs (version 03.0) /B01-1/, information (data and variables) provided in the monitoring report that are different from that stated in the approved CPA-DDs /B04/, have been assessed. The assessment is summarized below:

Parameter	Ex-ante value in the CPA-DDs	Value reported for this monitoring period	Assessment by the verification team
Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$)	30,000	42,188	<p>Verification team noted that the actual number of cookstoves distributed under the CPA is more than the number indicated in the approved CPA-DD /B04/.</p> <p>As in CPA DD PP mentioned that the Additional stove distributions will depend on local circumstances and the</p>

				<p>success of the initial distribution.</p> <p>Moreover, from the review of monitoring report and emission reduction calculation sheet it is confirmed that the value of annual energy savings per stove per year is 0.018GWhth/year which is much less than the of 20GWh per annum and is well within the limits of microscale threshold and remain within the threshold during this monitoring period for the subject CPA.</p> <p>The same was verified by the VT through review of stove distribution database /06/ and is found appropriate and acceptable to VT</p>
	Adjustment to account for any continued use of pre-project devices during the year y (μy)	1.0	0.9680	<p>The ex-ante estimated value for the parameter has not been provided in the approved CPA-DD /B04/ and has instead been used from the ex-ante ER sheet /B04/.</p> <p>The monitored value for the parameter is less than the ex-ante estimates /B04/ and is being conservative, thus has been accepted by the verification team. The value of adjustment to account for any continued use of pre-project devices during the year has been checked with the values from the monitoring database /05/ and ER sheet/04/.</p>
	WBT ($\eta_{new,i}$)	0.3117	0.3404	<p>The monitored value for the parameter is slightly more (actual value 0.0287 or relatively 9.7%) than the ex-ante value /B04/.</p> <p>As the stoves have only been used for a period of about 6 months, the deterioration in the stove functionality is less and also for this verification cross CPA sampling has been done and most of the stoves considered for WBT test is from CPA 6, which includes all new stoves thus the variation is reasonable.</p> <p>The value of the thermal efficiency of the stove is provided in the monitoring report/02/ and has been checked with the values</p>

				WBT test results and the ER sheet/04/.
	Manufacturer (certified by a national standards body or an appropriate certifying agent recognized by that body (Life Span)	6.5	6.5	The monitored value for the parameter is less than the ex-ante estimates /B04/ and thus has been accepted by the verification team. The value of the parameter is provided in the monitoring report /02/ and has been checked with the values from the ER sheet /04/. These values were also confirmed based on the interviews conducted during the remote surveys with the households.
	In summary, the monitoring period is reasonable, and the operation of the CPA is in accordance with the approved CPA-DD /B04/. The verification team took cognizance of §253 to §256 of CDM PS for PoA (version 03.0) /B01-2/ and §318 b (i), §338, §339 of CDM VVS for PoA (version 03.0) /B01-1/.			

E.3.2. Post-registration changes

E.3.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

Not applicable

E.3.2.2. Corrections

Not applicable

E.3.2.3. Changes to the start-date of the crediting period

Not applicable

E.3.2.4. Inclusion of a monitoring plan

Not applicable

E.3.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

Not applicable

E.3.2.6. Changes to the project design

Not applicable

E.3.2.7. Changes specific to afforestation and reforestation activities

Not applicable

E.3.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	DR, I
Findings	-
Conclusion	The verification team is able to confirm that the monitoring plan contained in the approved CPA-DD /B04/ is in accordance with the approved methodology applied by the project activity, i.e. AMS-II.G (version 10) /B02/. The monitoring plan is in accordance with the approved methodology, AMS-II.G (version 10) /B02/, applied by the component project activity and as provided in the approved CPA-DD /B04/. The verification took cognizance of §341 to §343 of CDM VVS for PoA (version

03.0) /B01-1/.

E.3.4. Compliance of monitoring activities with the registered monitoring plan**E.3.4.1. Data and parameters fixed ex ante or at renewal of crediting period**

Means of verification	DR, I			
Findings	-			
Conclusion	The following parameters have been fixed ex-ante for all the CPAs considered under this monitoring period:			
	Parameter	Description of the parameter	Value	Assessment by VT
	B _{old} (Tonnes per annum)	Quantity of biomass used in absence of the project activity	5.88	The value is consistent with approved CPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.
	f _{NRB,y} (Fraction)	Non-renewable biomass usage in Zambia, as a proportion of total biomass usage	0.88	The value is consistent with approved CPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.
	EF _{projected_fossilfuel} (tCO ₂ /TJ)	Emission factor for the substitution of nonrenewable woody biomass by similar consumers	63.7	The value is consistent with approved CPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.
	L _y (Fraction)	Leakage	0.95	The value is consistent with approved CPA-DD /B04/ and fixed ex-ante for the duration of the crediting period.
Verification team confirms that the data and parameters fixed ex-ante are in accordance with the approved CPA-DDs /B04/ and the monitoring plan.				
The verification took cognizance of §344 of CDM VVS for PoA (version 03.0) /B01-1/.				

E.3.4.2. Data and parameters monitored

Means of verification	DR,I
Findings	-
Conclusion	<p>The verification team has assessed the data and parameters monitored during the monitoring period in accordance with §261, 262 and 263 of the CDM PS for PoA (version 03.0) /B01-2/. The Verification team is able to confirm that the Data and parameters monitored are in accordance with the approved CPA-DD /B04/ and the monitoring plan /B04/.</p> <p>A complete assessment of each of the monitored parameters has been provided in Appendix 5 of the verification report.</p> <p>The verification took cognizance of §261, 262 and 263 of the CDM PS for PoA (version 03.0) /B01-2/ and §356, 357 and 358 of the CDM VVS for PoA (version 03.0) /B01-1/.</p>

E.3.4.3. Implementation of sampling plan

Means of verification	DR,I																																	
Findings																																		
Conclusion	<p>PP has implemented single sampling plan across two CPAs (6864-P1-0005-CP1 and 6864-P2-0006-CP1) and the same is justified as both the CPAs are homogeneous with respect to the technology distributed (Greenway Jumbo stoves), the end-users (households) and the geographical area where the cookstoves have been distributed i.e., within the boundaries of host country (Zambia).</p> <p>The total population size of the improved cookstoves (ICS's) distributed under the two CPAs and covered under monitoring period is 62,188. The CPA wise details of number of cookstoves distributed are as:</p> <table><tr><th>CPA Name</th><th>CPA number</th><th>Total number of ICS</th></tr><tr><td>Fuel Efficient Stoves in Zambia – Korea Carbon Management Ltd. CPA No.1</td><td>6864-P1-0005-CP1</td><td>20,000</td></tr><tr><td>Fuel Efficient Stoves in Zambia (Korea Carbon Management Ltd. CPA No.02)</td><td>6864-P2-0006-CP1</td><td>42,188</td></tr></table> <p>The total population of the stoves under the CPA (6864-P2-0006-CP1) applicable for monitoring is 42,188.</p> <p>The monitoring parameters to be monitored through the sampling plan are:</p> <ol style="list-style-type: none">1. Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$)2. Adjustment to account for any continued use of pre-project devices during the year y (μy)3. Efficiency of the project device of each type i and batch j implemented as part of the project activity ($\eta_{new,i,j}$) <p>A single sampling plan across 2 CPAs was applied by the CME for the selection of monitoring samples with 95/10 confidence interval/ precision level for the parameters In line with §23 of the Sampling Standard (version 07.0) /B11/, In the case of CPAs solely composed of “microscale CDM units” as defined in the Methodological tool 19, 95/10 confidence/precision shall be applied for sampling surveys in all cases, even when they are conducted at the CPA level) which is deemed acceptable as per the approved PoA-DD /B04/ and CPA-DD /B04/. which applies Standard for Sampling and Surveys for CDM project activities and programmes of activities (Version 07.0) /B11/.</p> <p>The number of samples for each of the parameters covered during the monitoring activity is as given below:</p> <table><tr><th>Parameter</th><th>Parameter of interest</th><th>Calculated Sample Size (n)</th><th>Sample size after applying students t-distribution</th><th>Samples covered during monitoring</th><th>Achieved Precision</th></tr><tr><td>($N_{y,i,j}$)</td><td>Proportion</td><td>12</td><td>N/A</td><td>37</td><td>0.00%</td></tr><tr><td>(μy)</td><td>Proportion</td><td>12</td><td>N/A</td><td>37</td><td>6.42%</td></tr><tr><td>($\eta_{new,i,j}$)</td><td>Mean</td><td>03</td><td>14</td><td>18</td><td>2.31%</td></tr></table> <p>The calculated sample size of twelve (12) in the case of ($N_{y,i,j}$) and (μy) was less than 30, the sample size required under §14 of the Standard: Sampling and surveys for CDM project activities and programmes of activities (version 09.0)/B07/ However, CME has sampled only 37 household and the sample size covered by the CME is acceptable to VT and also fulfils the requirement of §14 of the Standard: Sampling and surveys for CDM project activities and programmes of activities (version 09.0)/B07/</p> <p>For parameter η_{new} the calculated sample size was three (03), which is less than 30 and hence a student's t-distribution test in accordance with §14 of <i>Standard: Sampling and surveys for CDM project activities and programmes of activities</i></p>	CPA Name	CPA number	Total number of ICS	Fuel Efficient Stoves in Zambia – Korea Carbon Management Ltd. CPA No.1	6864-P1-0005-CP1	20,000	Fuel Efficient Stoves in Zambia (Korea Carbon Management Ltd. CPA No.02)	6864-P2-0006-CP1	42,188	Parameter	Parameter of interest	Calculated Sample Size (n)	Sample size after applying students t-distribution	Samples covered during monitoring	Achieved Precision	($N_{y,i,j}$)	Proportion	12	N/A	37	0.00%	(μy)	Proportion	12	N/A	37	6.42%	($\eta_{new,i,j}$)	Mean	03	14	18	2.31%
CPA Name	CPA number	Total number of ICS																																
Fuel Efficient Stoves in Zambia – Korea Carbon Management Ltd. CPA No.1	6864-P1-0005-CP1	20,000																																
Fuel Efficient Stoves in Zambia (Korea Carbon Management Ltd. CPA No.02)	6864-P2-0006-CP1	42,188																																
Parameter	Parameter of interest	Calculated Sample Size (n)	Sample size after applying students t-distribution	Samples covered during monitoring	Achieved Precision																													
($N_{y,i,j}$)	Proportion	12	N/A	37	0.00%																													
(μy)	Proportion	12	N/A	37	6.42%																													
($\eta_{new,i,j}$)	Mean	03	14	18	2.31%																													

	<p>(Version 09.0) was applied to re-calculate the sample size (n). The sample size arrived at after applying the student's t-distribution test was fourteen (14). However, the CPA implementer has sampled 18 households. The same is acceptable to VT.</p> <p>For the monitoring parameters ($N_{y,i,j}$) and (μ_y) data were collected following a specially designed survey form. For thermal efficiency (η_{new}) of the stoves WBTs (Water Boiling Tests) were conducted. Verification Team has checked the precision calculation (for all parameters) and that the same was found to be correct and within the permissible limit of 10%.</p> <p>DOE used sampling during verification to check the number of operational stoves, continued use of pre-project device and to check if the WBT tests have been done in the households.</p> <p>The sampling plan implemented by the CME is in accordance with the applied methodology /B02/ and the approved PoA-DD /B04/ and CPA-DDs /B04/. The same is acceptable to the verification team.</p> <p>The verification took cognizance of §346 of CDM VVS for PoAs (version 03.0) /B01-1/.</p>
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E.3.5. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	DR, I
Findings	CAR 01 was raised in this regard and successfully resolved. Please refer to Appendix 4 of this report for further details.
Conclusion	<p>The stove efficiency testing has been determined by WBTs conducted in line with requirements of the approved CPA-DD /B04/. The WBTs were conducted /19/ by the CME. During the remote interviews, it was confirmed that the personnel involved in the WBT test has relevant experience and competence in monitoring cookstove projects. The monitoring equipment used for conducting the stove efficiencies by WBTs are thermometer, weighing machine and moisture meter.</p> <p>All the equipment including the thermocouple, moisture meter and weighing scale used for WBT has been newly purchased and is factory calibrated and the same has been cross-checked through review of purchase receipts /12/, manufacturer's specifications /10/, /11/, /22/.</p> <p>The verification took cognizance of § 344 and § 349 of CDM VVS for PoAs (version 03.0) /B01-1/.</p>

E.3.6. Assessment of data and calculation of emission reductions or net removals

E.3.6.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	DR, I
Findings	CL 02 was raised in this regard and successfully resolved. Please refer to Appendix 4 of this report for further details.
Conclusion	<p>The verification team confirms that the calculation of baseline emissions as set out in the emission reduction calculation spreadsheet /04/ has been based on appropriate methods and formulae and that the calculation of baseline emissions during the monitoring period is accurate and in line with the monitoring plan and methodology. It has confirmed that all assumptions, emission factors and default factors that have been applied have been appropriately justified and applied.</p> <p>It is being confirmed that data were available throughout the monitoring period in accordance with the monitoring plan and methodology /B02/. Distribution data are monitored and recorded continuously, and other parameters are monitored by surveys and tests conducted once annually.</p> <p>The equations for baseline emissions as provided in the monitoring report /02/ were confirmed with the approved revised CPA-DD /B04/ and the applied methodology AMS-</p>

II.G, version 10 /B02/ and found to be correct.

Emission reductions are calculated using the below equation:

To account for leakages, a net to gross adjustment factor of 0.95 will be used, thereby eliminating the need for ex-post surveys to determine leakages, as per para 34 of the methodology

$f_{NRB,y}$ - Fraction of biomass used in absence of the project that is non-renewable: The value calculated is 0.88.

$B_{y,savings,i,j}$ shall be determined using option 3 (equation 6) as per para 27 of the methodology.

The loss in efficiency of the project device type i in each batch j due to aging shall be determined based on para 32(d) of the methodology.

To account for incidents where multiple project ICS are installed per household, Equation 9 of the methodology will be applied to ex-post to the emissions calculations for each household:

η_{old} = A default value of 0.10 may be optionally used if the replaced system is a three stone fire, or a conventional system with no improved combustion air supply or flue gas ventilation system, i.e. without a grate or a chimney; for other types of systems a default value of 0.2 may be optionally used.

η_{new} = Efficiency of the system being deployed as part of the project activity (fraction), as determined using a WBT. Use weighted average values if more than one type of system is being introduced by the project activity.

Leakage (L_y) will be accounted for by applying the methodology gross adjustment factor (0.95) to emissions reduction calculations.

From the above equation and the parameter values, emission reductions are calculated as:

CPA Ref. No.	Achieved ERs (tCO ₂ e) /03/
6864-P2-0006-CP1	29,267
Total	29,267

The verification team confirms that the calculation of baseline emission and emission reductions is in accordance with the applied methodological equation and the approved CPA-DD /B04/. Calculations have been checked and confirmed from the ER spread sheet /04/.

In accordance with the §360(c) of the CDM VVS for PoAs, version 03.0 /B01-1/, verification team confirms that appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals have been followed.

The verification took cognizance of §357 and §358 of CDM VVS for PoAs (version 03.0) /B01-1/.

E.3.6.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	DR, I
Findings	-
Conclusion	There are no project emissions in the monitoring methodology /B02/ and the CPA-DD /B04/.

E.3.6.3. Calculation of leakage GHG emissions

Means of verification	DR, I
Findings	-
Conclusion	<p>A default (0.95) net to gross adjustment factor to account for leakages (L_y) has been considered by the project and thus it is in line with the requirement of the monitoring methodology / B02/ and the CPA- DD /B04/.</p> <p>The verification took cognizance of §344 of CDM VVS for PoAs (version 03.0) /B01-1/.</p>

E.3.6.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks

Means of verification	DR, I
Findings	-
Conclusion	The verification team confirms that all parameters are used correctly in the calculations, all results are verifiable and transparent, all assumptions are

	<p>described and based on verifiable evidence and calculations are done in accordance with the pre- defined formulae from approved CPA-DD /B04/. The total number of ERs achieved during the monitoring period is 29,267.</p> <p>In summary, verification team confirms that actual emission reduction is lower than the estimate of the approved revised CPA-DD /B04/ for the current monitoring period.</p> <p>The verification took cognizance of § 356 of CDM VVS PoAs (version 03.0) /B01-1/.</p>
--	--

Title and UNFCCC reference number of the CPA	Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e)	Project emissions or actual net GHG removals by sinks (tCO ₂ e)	Leakage (tCO ₂ e)	GHG emission reductions or net GHG removals by sinks (tCO ₂ e)		
				Amount achieved before 1 January 2013	Amount achieved from 1 January 2013	Amount achieved in the entire monitoring period
6864-P2-0006-CP1: Fuel Efficient Stoves in Zambia (Korea Carbon Management Ltd. CPA No.02)	29,267	0	0	0	29,267	29,267
Total	29,267	0	0	0	29,267	29,267

E.3.6.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA

Means of verification	DR,I
Findings	-
Conclusion	<p>Comparison of the actual GHG emission reductions with the estimates in the included specific CPAs is given in the below table.</p> <p>The verification team took cognizance of § 357 of CDM VVS for PoAs (version 03.0) /B01-1/.</p>

Title and UNFCCC reference number of the CPA	Actual values achieved by the CPAs during this monitoring period	Value estimated in ex ante calculation in the included CPA-DD(s)
6864-P2-0006-CP1	29,267	50,146
Total	29,267	50,146

E.3.6.6. Remarks on difference from estimated value in included CPA

Means of verification	DR,I
Findings	CL 01 was raised in this regard and successfully resolved. Please refer to Appendix 4 of this report for further details.
Conclusion	<p>The actual emission reduction is less than the ex- ante estimated values in the approved CPA-DD.</p> <p>The verification team took cognizance of § 340 (d) and § 356 of VVS for PoAs (version 03.0) /B01-1/.</p>

E.3.7. Assessment of reported sustainable development co-benefits

Means of verification	DR, I
Findings	-
Conclusion	Not applicable (as there are no sustainable development co-benefits required as per the approved CDM PoA-DD and CPA-DDs /B04/.) The verification took cognizance of \$359 of CDM VVS PoAs (version 03.0) /B01-1/.

E.3.8. Global stakeholder consultation

Means of verification	Not applicable
Findings	-
Conclusion	No comments were received on the project activity during the webhosting period.

SECTION F. Internal quality control

The verification report has passed a technical review before being submitted to the UNFCCC. A technical reviewer qualified in accordance with the CCIPL's qualification scheme for CDM validation and verification performs the technical review.

SECTION G. Verification opinion

Carbon Check (India) Private Ltd. (CC IPL) has been appointed to perform the first (1st) periodic verification of the registered CDM Programme of Activities "Fuel Efficient Stoves in Africa" (UNFCCC Ref. No.: 6864) for the following CPAs:

SI. #	CPA Reference Number	Title of the CPA
1	6864-P2-0006-CP1	Fuel Efficient Stoves in Zambia (Korea Carbon Management Ltd. CPA No.02)

During the current monitoring period for the monitoring report number 3, only one CPA (6864-P2-0006-CP1) is claiming the emission reductions. As this is a batched issuance request, other CPAs (6864-P2-0007-CP1), other CPAs (6864-P1-0001-CP1, 6864-P1-0002-CP1, 6864-P1-0003-CP1, 6864-P1-0004-CP1 and 6864-P1-0005-CP1 included in the PoA are not claiming emission reductions in the monitoring report number 3. This was confirmed by reviewing the monitoring report /02/, ER sheet /04/ and also during the remote audit interviews.

Verification methodology and process

The Verification team confirms the contractual relationship signed on 01/04/2021 between Carbon Check (India) Private Ltd., (DOE) and the CPA Implementer/Project Participant, (Korea carbon Management Ltd.). The team assigned to the verification meets the CCIPL's internal procedures including the UNFCCC requirements for the team composition and competence. The verification team has conducted a thorough contract review as per UNFCCC and CCIPL procedures and requirements.

The verification has been performed as per the requirements described in the VVS, PS and PCP for PoAs (version 03.0) and constitutes the review and completion of the following steps:

- Reviewing the approved PoA-DD (version 8.5, dated 03/03/2020) /B04/, approved CPA-DD for 6864-P2-0006-CP1 (version 1.2; Dated 18/06/2020) /B04/ including the monitoring plan and the corresponding validation reports /B04/;
- Publication of the MR (version 1.0; Dated: 22/07/2021) /01/ on the UNFCCC website on 28/07/2021.
- Desk review of the validation report, MR and other relevant documents including documents related to the emission reductions from the CPA
- Review of the applied monitoring methodology (AMS-II.G., version 10) /B02/;
- Review of any CMP and EB decisions, clarifications and guidance /B05/;
- Remote audit and interviews: 17/08/2021 to 18/08/2021

- Resolution of CARs and CLs raised during verification.
- Issuance of Verification Report

The component project activities were correctly implemented according to selected monitoring methodology, monitoring plan and the approved CPA-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. Through the review and remote audit the verification team confirms that the PoA has resulted in the 29,267 tCO₂e emission reductions during the first monitoring period.

Verified emission reductions for the PoA: 29,267 tCO₂e

The break-up of emission reduction from 01/07/2020 – 31/12/2020 as verified during the course of verification are as below:

Item	Emission reductions up to 31 December 2012	Emission reductions from 1 January 2013 onwards
Emission reductions (t CO ₂ e)	0	29,267

Break up of emission reductions CPA wise:

CPA Reference Number	Achieved ERs (tCO ₂ e) /03/
6864-P2-0006-CP1	29,267
Total	29,267

SECTION H. Certification statement

Carbon Check (India) Private Ltd., the DOE, has performed the first (1st) verification of the registered Programme of Activities titled “Fuel Efficient Stoves in Zambia” (UNFCCC Ref. No.: 6864) in Zambia for the following CPAs:

Sl. #	CPA Reference Number	Title of the CPA
1	6864-P2-0006-CP1	Fuel Efficient Stoves in Zambia (Korea Carbon Management Ltd. CPA No.02)

The component project activities are designed to generate emission reductions by distribution of the fuel-efficient cook stoves in individual households. The fuel-efficient cook stoves are replacing the inefficient wood stoves that were being used in the baseline scenario.

The CME is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the component project activities. It is DOE's responsibility to express an independent verification statement on the reported GHG emission reductions from the component project/s. The DOE does not express any opinion on the selected baseline scenario or on the approved PoA-DD/CPA-DDs /B04/. The verification is carried out in-line with the requirements of VVS for PoAs (version 03.0) /B01-1/.

The verification was performed to identify the compliance of the component project activities with implementation and monitoring requirements, and to verify the actual amount of achieved emission reductions, through obtaining evidence and information through remote interviews that included:

- Checking whether the provisions of the monitoring methodology and the monitoring plan were consistently and appropriately applied; and
- Collection of evidence supporting the reported data.

The verification is based on:

- Approved PoA-DD (version 8.5, dated 03/03/2020) /B04/
- Approved CPA-DD for 6864-P2-0006-CP1 (version 1.2; Dated 18/06/2020), included in the registered PoA and its monitoring plan /B04/;
- Approved monitoring methodology AMS-II.G. “Energy efficiency measures in thermal applications of non-renewable biomass” (version 10) /B02/;
- Validation report /B04/ for the PoA and CPA/
- Monitoring report (version 1.0; Dated: 22/07/2021) and (version 1.3; Dated 13/10/2021)

This statement covers verification period from 01/07/2020 – 31/12/2020

The DOE had raised two (03) clarification requests (CLs) and one (01) Corrective Action Request (CAR) which have been closed by the CME. One (01) FAR has been raised during the course of verification which needs to be resolved during the next periodic verification.

The break-up of emission reduction from 01/07/2020 – 31/12/2020 as verified during the course of verification are as below:

Item	Emission reductions up to 31 December 2012	Emission reductions from 1 January 2013 onwards
Emission reductions (t CO ₂ e)	0	29,267

Appendix 1. Abbreviations

Abbreviations	Full texts
3RL	3 Rocks Limited
ASG	Activity Sample Group
AQL	Acceptable Quality Limit
CCA	Clean Cooking Alliance
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CER	Certified Emission Reduction
CL	Clarification Request
CME	Coordinating and Managing entity
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
CPAI	CPA Implementer
CO ₂	Carbon Dioxide
DR	Document review
DOE	Designated Operational Entities
DVR	Draft Verification Report
EB	CDM Executive Board
EF	Emission Factor
EI	External individual
FA	Final Approval
FAR	Forward Action Request
FVR	Final verification Report
GGIPL	Greenway Grameen Infra Pvt Ltd
GHG	Greenhouse gas(es)
I	Interview
IIT	Indian Institute of Technology
IPCC	Intergovernmental Panel on Climate Change
IR	Internal resource
KCML	Korea Carbon Management Ltd.
MP	Monitoring Period
OSV	On Site Visit
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
PP	Project Participant
QC/QA	Quality control/Quality assurance
SESG	Stove Efficiency Sample Group
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Limit
VVS	Validation and Verification Standard
WBT	Water boiling test

Appendix 2. Competence of team members and technical reviewers



Carbon Check (India) Private Ltd.

Amit Anand

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	<input checked="" type="checkbox"/>	Team Leader	<input checked="" type="checkbox"/>	Technical reviewer	<input checked="" type="checkbox"/>
Verifier	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>	Local Assessor ¹	<input checked="" type="checkbox"/>

In the following Technical Areas:

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

Mr. Vikash Kumar Singh
Compliance Officer

Date of Approval
24/12/2020

Valid Till
24/12/2021

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2017	Annual Revision
24/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision
01/03/2020	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision

¹ India and South Africa

CARBON CHECK (INDIA) PRIVATE LIMITED

CIN: U74930DL2012PTC232495

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Carbon Check (India) Private Ltd.

Sanjay Agarwalla

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	<input checked="" type="checkbox"/>	Team Leader	<input checked="" type="checkbox"/>	Technical reviewer	<input checked="" type="checkbox"/>
Verifier	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>	Local Assessor ¹	<input checked="" type="checkbox"/>

In the following Technical Areas:

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

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
24/12/2020

Valid Till
24/12/2021

Revision History of the Document

26/12/2014	Initial Adoption
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24/12/2018	Annual Revision
24/12/2019	Annual Revision
01/03/2020	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision

¹ India

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Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
/01/	KCML	Monitoring report (webhosted)	version 1.0; Dated: 22/07/2021	CME
/02/	KCML	Final Monitoring report	Version 1.3; Dated 13/10/2021	CPAI
/03/	KCML	Emission reduction calculation spread sheet corresponding to /01/	ER ER Spreadsheet _VER2_CPA006_20210722	CPAI
/04/	KCML	Revised Emission reduction calculation spread sheet, corresponding to /02/	ER Spreadsheet _VER2_CPA006_20210907	CPAI
/05/	KCML	1. CPA Monitoring survey records for the monitoring period 2. Copy of duly filled and signed monitoring survey questionnaires	--	CPAI
/06/	KCML	CPA Distribution records (Distribution database) including evidence for the dates of distribution	--	CPAI
/07/	GGIPL	Technical specification of the "Greenway Jumbo Stove" including lifespan of the stoves	--	CPAI
/08/	IIT, Varanasi	Certified efficiency of the Greenway Jumbo Stove	Dated: 17/12/2015	CPAI
/09/	KCML	Sample ICS Beneficiary Agreement	--	CPAI
/10/	All France	Technical specifications for Digital Thermometer (HACCP Thermometer EN 13485 – S/E/0.5)	--	CPAI
/11/	ATOM	Technical specifications for Kitchen Gear (SF-400) Kitchen scale	--	CPAI
/12/	N/A	Purchase receipts for: 1. Digital thermometer 2. Weighing scale 3. Moisture Meter	Dated: 28/04/2021 Dated: 22/04/2021 Dated: 15/02/2021	CPAI
/13/	KCML	Training Records and curriculum vitae of personnel involved in monitoring exercise.	--	CPAI
/14/	KCML	List of random samples generated for monitoring surveys and random sample generator: refer random sample generation" tab in the ER spreadsheet	www.randomizer.org	CPAI
/15/	CCA	The Water Boiling Test – Cookstove Emissions and Efficiency in a Controlled Laboratory Setting	Version: 4.2.3; Dated: 19/03/2014	CPAI
/16/	KCML	Evidence for unique identification of each of the project stoves	--	CPAI
/17/	KCML	Sample: Monitoring survey questionnaire template	--	CPAI
/18/	KCML & 3RL	Copy of Agreement between CME (3 Rocks Ltd) and CPA implementer (Korea Carbon Management Ltd)	Dated: 24/12/2019	CPAI
/19/	MIT	WBT Test Results: 1. Raw sheet of data capture 2. Excel sheet for the calculation of individual WBTs 3. Training and Competency Records	-	CPAI

		of the WBT personnel/ monitoring personnel.		
/20/	3RL	Management system for POA 6864: Fuel Efficient Stoves in Zambia	--	CPAI
/21/	3RL	PoA management system review declaration	30/09/2020	CPAI
/22/	TESTO	Technical specifications for Testo portable moisture meter (Model: 606-1)	--	CPAI
/B01/	UNFCCC	1. CDM VVS for PoA 2. CDM PS for PoA 3. CDM PCP for PoA	Version: 03.0	Others
/B02/	UNFCCC	Applied baseline and monitoring methodology, AMS-II.G. Energy efficiency measures in thermal applications of non-renewable biomass	Version: 10	Others
/B03/	UNFCCC	Instructions for filling out the monitoring report form for CDM programme of activities	Version: 03	Others
/B04/	UNFCCC	<ul style="list-style-type: none"> Approved PoA-DD (version 8.5, dated 03/03/2020); Registered CPA-DD (6864-P2-0006-CP1 (version 1.2; Dated 18/06/2020) Corresponding validation reports. 	http://cdm.unfccc.int/	Others
/B05/	Web sites	Websites: 1. http://cdm.unfccc.int/	--	Others
/B06/	UNFCCC	Guidelines: Sampling and surveys for CDM project activities and programmes of activities	Version: 04.0	Others
/B07/	UNFCCC	Standard: Standard for sampling and surveys for CDM project activities and Programme of Activities	Version: 09.0	Others
/B08/	UNFCCC	Guideline: Application of materiality in verifications"	Version: 02.0	Others
/B09/	UNFCCC	Best Practices Examples Focusing on Sample Size and Reliability Calculations	Version: 01	Others
/B10/	UNFCCC	General Guidelines for Sampling and Surveys for Small-Scale CDM Project Activities	Version: 01	Others
/B11/	UNFCCC	Standard for Sampling and Surveys for CDM project activities and programmes of activities ()	Version 07.0	Others

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

Table 1. Remaining FARs from validation and/or previous verification

FAR ID	01	Section no.	D.6.2, D.3, D.4.2, D.4.1	Date: 30/08/2021
Description of FAR				
1. During the Validation stage, the implementation of the CPA has not started. Referring to paragraph 34 of CDM VVS for PoAs, version 03.0, during 1st periodic verification, the verifying DOE shall check/review the project implementation in accordance with the CPA-DDs including checking of all the technologies to be implemented in the CPAs and its compliance with the requirements of the PoA.				
2. Also, the DOE shall confirm following:				
i) Geographical location				

- ii) No double counting
- iii) Database management
- iv) Date of installation of first ICS

2. Similarly, for reasons cited above, section F of CPA-DD which assess the eligibility of CPA to be included in the PoA must also be reviewed by the verifying DOE for eligibility criterion no. 1,2,3 and 10, which have not been validated at the time of inclusion

CME response**Date:** 07/09/2021

Reg 1: The CPA is currently under implementation with a total of 80,000 ICS intended to be distributed under this CPA. This is an expansion of the originally intended distribution of 30,000 as per CPA-DD. The CPA-DD mentions on page 2 of the CPA-DD that an expansion past the 30,000 units was envisaged subject to the successful implementation of the first 30,000 units. The described technology of the Greenway Jumbo Stove as per CPA-DD has been implemented as sole ICS model under the CPA so far. This technology is in compliance with the requirements laid out in the POA-DD. The efficiency of the Greenway Jumbo stove has been proven to be above 20%.

Reg 2:

- (i) All stoves distributed under this CPA were distributed in Zambia. This has been evidenced to the DOE through information provided in the CPA database and associated GPS coordinates
- (ii) Each ICS distributed under the CPA has a unique serial number as outlined in the CPA database
- (iii) The database management has been described in the MR
- (iv) The date of installation of the first CPA is shown in the CPA database as being 21/05/2020

Documentation provided by the CME

-

DOE assessment**Date:** 14/09/2021

1. *The assessment of implementation of CPA in accordance with CPA-DD and PoA including the technology (ICS) distributed in the CPA and its compliance with the requirements pertaining to technologies to be implemented as provided in PoA has been assessed in detail by the VT in section E.3.1 of this report.*
2. (i). **Geographical Location:** *From the review the map provide in section C.2 of MR for the geographical location of CPA and through interview with the CPA implementer, end users of the ICS and through review of the CPA database (which includes unique stove IDs, GPS location of the stoves, address of the households) it has been confirmed that the geographical location of the CPA is in Zambia which is consistent with the geographical boundary of the PoA (PoA-DD version: 8.5; dated: 03/03/2020). Thus, the DOE also confirmed that the CPA fulfils the **eligibility criteria# 1** (Geographical boundaries of CPAs consistent with the geographical boundary of the PoA) as presented in section F of the included CPA-DD (version: 1.2; Dated: .18/06/2020).*

*(ii) **No double counting:** VT has reviewed the CPA database which contains unique end user information viz., Name, address and contact number of the end-user and GPS coordinates of the recipient households. Moreover, the CPA database also contains the unique ID for each stove. Thus, VT confirms that adequate measures have been put in place by the CPA implementer to avoid double counting. During the course of verification, VT has interviewed sample household to verify the end-user details and the serial number of the stoves provided in the database which was further cross-checked through review of end-user agreements between households and CPA Implementer and confirms that no double accounting occurred during the monitoring period under verification. Thus, the DOE also confirmed that the CPA fulfils the **eligibility criteria# 2** (Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations e.g., programme logo) as presented in section F of the included CPA-DD (version: 1.2; Dated: 18/06/2020)*

*(iii) **Database Management:** The CPA implementer has maintained a stove distribution / CPA database, which contains information viz.,*

- Stove model
- stove serial number,
- Date of Installation
- PA number
- Name, address, contact number and identification document number of the end-user
- Type of baseline stove replaced
- GPS coordinates of the recipient households.

The VT through review of the CPA database confirms that the database is in accordance with the requirements of PoA management system and the PoA-DD.

(iv) **Date of Installation of first ICS:** The start date of installation of first CPA as mentioned in the CPA database is 21/05/2020 and this was cross checked by the VT through review of end-user agreements between households and CPA Implementer.

3. **Eligibility Criteria# 3:** The validation team has referred and reviewed the information provided on the UNFCCC website, VERRA and GS4GG registry and also interviewed the representatives of CPA implementer and confirms that CPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered. Moreover, CPA Implementer has gathered information regarding the type of baseline stove replaced and baseline fuel used from each end user at the time of distribution of ICS. The information has been captured in the end-user agreements between households and CPA Implementer and the information has been updated in the CPA database. The information on type of baseline stove replaced and baseline fuel used was cross checked by the verification team during remote audit by interviewing the sample end users. Thus, the DOE also confirmed that the CPA fulfils the eligibility criteria# 3 (The CPA shall not be previously registered as a CDM project activity, included as a CPA in any other registered PoA, or deregistered as a CPA of a PoA) provided in section F of the included CPA-DD (version: 1.2; Dated: .18/06/2020).

Eligibility Criteria#10:

- (i) The CPA has been implemented in Zambia, which is a least developed country (LDC) and the same has been verified through review of United Nations LDC country information² and United nations committee of development policy³ as of February 2021.
- (ii) On the basis of review of the monitoring database and ER calculation sheet, verification team confirms that the value of ERs of each stove for one year is 3.63 tCO₂e/unit/year, which is less than 600 tCO₂e/unit/year. Moreover, from the review of monitoring report and emission reduction calculation sheet it is confirmed that the value of annual energy savings per stove per year is 0.018GWhth/year which is much less than the of 20GWh per annum.
- (iii) Furthermore, through review of agreement between end user and CPA implementer and interviews of sample household it was confirmed that the end users are only households. Thus, all the points cited above confirms that the CPA fulfils the eligibility criteria# 10 (Conditions to ensure that CPAs that will be included meet the small-scale or microscale thresholds and remain within those thresholds throughout the crediting period of the CPAs.) as presented in section F of the included CPA-DD (version: 1.2; Dated: .18/06/2020).

Based on all the above assessment verifier concludes that the FAR is closed.

Table 2. CLs from this verification

CL ID	01	Section no.	Date: 30/08/2021
Description of CL			
<i>In section E.2 of MR for parameter Nd,hh, (Number of project devices distributed per household) it is mentioned as additional comment that "As per PoA design and operational framework, only one device is envisaged in one household. At the time of installation or via ex-post monitoring, presence of existing project stove will be checked and recorded and any additional project device in a household will not be credited."</i>			
<i>However, in database there is no record of the number of stoves distributed per household is present. CME is requested to clarify the inconsistency.</i>			
CME response			Date: 07/09/2021
<i>The information has been included in the ER calculation spreadsheet/database</i>			
Documentation provided by the CME			
<i>ER calculation spreadsheet v1.1</i>			

² <https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information>

³ https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/ldc_list.pdf

DOE assessment	Date: 14/09/2021
In ER spreadsheet, database 6864-P2-0006-CP1 has been revised to provide the No. of stoves distributed to household. The same is in line with the registered parameters to be monitored and acceptable to verification team.	
Hence CL is closed.	

CL ID	02	Section no.	E.3.4.2	Date: 30/08/2021
Description of CL				
In accordance with the requirement of § 340 (c) of CDM VVS for PoA (version 03.0), DOE shall assess the Information (data and variables) provided in the monitoring report that is different from that stated in the registered PoA DD and included CPA DDs or any approved revised PoA DD and CPA DDs and has caused an increase in estimate emission reduction from the CPA.				
In view of above requirement, During the review of MR, ER sheet and approved revised CPA-DDs, it was observed that the monitored (ex-post) value for following parameter is higher as compared to the values used for ex-ante estimation of ERs in the approved revised CPA-DD:				
CPA#	Parameter			
	η_{new}			
	Ex-ante value		Ex-post value	
6864-P2-0006-CP1	31.17%		34.04%	
CME is requested to clarify the reason for the difference.				
CME response				Date: 07/09/2021
The ex-ante value of 31.17% is based on the Bureau of Indian Standards (BIS) protocol which builds additional tests and checks over and above the Water Boiling Test (WBT) protocol Version 4.2.3. Two of these additions lead to depressed/conservative efficiency figures: 1) One of these additions is to exclude the leftover charcoal (after the test) and not subtract it from the fuel consumed i.e. it is assumed as 'consumed' thereby showing a higher fuel consumption (and lower efficiency). 2) WBT accounts for the heat utilized in evaporation which is calculated in BIS but not accounted for in the final efficiency thus lowering the efficiency value again.				
The WBT conducted as part of the 1 st Verification was undertaken between 30/04/2021 – 05/06/2021. The WBT was performed based on the Waster Boiling Test Protocol Version 4.2.3 in line with methodological requirements. In total 54 stove efficiency tests (3 tests each on 18 stoves) have been conducted, which should provide for an accurate and representative sample to establish the actual efficiency of the Greenway Jumbo Cookstove. The result demonstrated a average ICE efficiency for 34.04%.				
Moreover, the efficiency of the stoves could be higher due to the recent distribution of stoves and the stoves tested are practically new. The difference of 1.52% from last verification is within a margin that's been observed when performing WBT in the field.				
CME has employed oversampling to ensure a representative sampling approach				
Documentation provided by the CME				
WBT results for Verification 2				

DOE assessment	Date: 14/09/2021
<p>The ex-ante value of efficiency of the project ICS is 31.17%, which is based on the 3rd party lab report from Indian Institute of Technology, BHU, Varanasi. The test was conducted in accordance with IS 13152 (Part I) :2012 of Bureau of Indian Standards (BIS), which has few additional requirements as compared to the Water Boiling Test Protocol (Version 4.2.3) Such as:</p> <ol style="list-style-type: none"> 1) One of these additions is to exclude the leftover charcoal (after the test) and not subtract it from the fuel consumed i.e., it is assumed as 'consumed' thereby showing a higher fuel consumption (and lower efficiency). 2) WBT accounts for the heat utilized in evaporation which is calculated in BIS but not accounted for in the final efficiency thus lowering the efficiency value again. <p>These additional requirements of IS 13152 (Part I): 2013 of Bureau of Indian Standards (BIS) led to slight lesser value of efficiency as compared to the WBTs conducted based on the Water Boiling Test Protocol (version 4.2.3).</p> <p>Furthermore, the ex-post value of efficiency (34.04%) of projects ICS is based on the actual tests conducted and VT has reviewed the WBT raw data sheet and interviewed the persons responsible for conducting these tests and confirms that the results obtained for efficiency of projects ICS are correct and acceptable. Also for this verification cross CPA sampling has been done and most of the stoves considered for WBT test is from CPA 6, which includes all new stoves</p> <p>Hence CL is closed.</p>	

CL ID	03	Section no.	Date: 30/08/2021
Description of CL			
<p><i>During the remote audit, DOE has interviewed Violet Chabala, owner of project stove with stove ID J20VE008141, to check whether the WBT test conducted for the stoves. However, during the audit, the end user provided the information that his stove was taken for the WBT test and has not been returned to him since last 5 to 6 months, nor any replacement stove has been provided to the end user.</i></p> <p><i>CME shall explain how the same has been accounted for in ER calculation.</i></p>			
CME response			Date: 07/09/2021
<p><i>CME accounts for the time when an end-user doesn't have access to the ICS by subtracting the time when the stove is not available in the calculation of the ERs. Therefore, no ERs are claimed for the period between stove pickup and return (both days excluded). Therefore, no emission reductions are claimed for the period where the original stove is not in place. Even in cases where a replacement stove is provided to the end-user, no emission reductions are claimed for such replacement stove.</i></p> <p><i>In the case of the referred stove ID J20VE008141, no adjustment has been made for this monitoring period as the stove was collected on 19/04/2021, whereas the monitoring period ended on 31/12/2020. An adjustment will be made in a future monitoring report that covers the time during which the ICS was not available to the user.</i></p>			
Documentation provided by the CME			
ER Calculation spreadsheet v1.1			

DOE assessment	Date: 14/09/2021
<p>As per above response, CME accounts for the time when an end user doesn't have access to the ICS by subtracting the time when the stove is not available in the calculation of the ERs and even in cases where a replacement stove is provided to the end user, no emission reductions are claimed for such replacement stove. Verification team cross checked the same from the ER calculation spreadsheet.</p> <p>Furthermore, the end date of this monitoring period is 31/12/2020 and WBT test was undertaken between 30/04/2021- 05/06/2021 i.e., after the end date of this monitoring period, therefore no adjustment has been made in this monitoring period which is deemed acceptable by the verification team.</p> <p>Moreover, a FAR has been raised during this verification to ensure by the verifying DOE in next verification that CME will accounts for the time when an end-user doesn't have access to the ICS during commencing of WBT test, by subtracting the time period when the stove is not available, in the calculation of the ERs.</p> <p>Hence CL has been closed.</p>	

Table 3. CARs from this verification

CAR ID	01	Section no.	E.3	Date: 30/08/2021
Description of CAR				
<p>The details of measurement equipment (digital thermometer) as mentioned in section E.2 of MR for parameter η_{new} is not consistent with the details provided in purchase receipt technical specification document for the same.</p>				
CME response				Date: 07/09/2021
<p>The CPA-DD has been revised to provide the correct information</p>				
Documentation provided by the CME				
CPA-DD V1.1				
DOE assessment				Date: 14/09/2021
<p>Section E.2 of MR has been revised to provide the correction information on the details of the measurement equipment (digital thermometer). Verification team has cross checked the details with the equipment invoice and hence CAR is closed.</p>				

Table 4. FARs from this verification

FAR ID	01	Section No.		Date: 14/09/2021
Description of FAR				
<p>In the case of the stove ID J20VE008141, stove was collected by end user on 19/04/2021 while the test was conducted in between 30/04/2021 to 05/06/2021. The verifying DOE should check and ensure that an adjustment will be made in a future monitoring report that covers the time period during which the ICS was not available to the user.</p>				
CME response				Date: 15/09/2021
<p>CME will provide further information in ER calculation spreadsheet during future verification.</p>				
Documentation provided by the CME				
Relevant ER spreadsheet				
DOE assessment				Date: DD/MM/YYYY
<p>This FAR needs to be closed in the next periodic verification.</p>				

Appendix 5. Data and parameters monitored

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Data / Parameter: (as in monitoring plan of CPA-DD):	Efficiency of pre-project device, which is a three-stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney; for other types of devices, (η _{old,i,j})
Measuring frequency/Time Interval:	Fixed
Reporting frequency:	Fixed It is to be noted that the monitoring of parameter for the applicable CPA (6864-P2-0006-CP1) is for a period of less than 1 year (01/07/2020 – 31/12/2020) only.
Reported value:	0.10
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Not Applicable. Fixed as per AMS II.G, version 10
Is accuracy of the monitoring equipment as stated in the CPA-DD? If the CPA-DD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Not applicable
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Not applicable
Is the calibration interval in line with the monitoring plan of the CPA-DD? If the CPA-DD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Not applicable.
Company performing the calibration (internal or external calibration):	Not applicable
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Not applicable
Is (are) calibration(s) valid for the whole reporting period?	Not applicable
If applicable, has the reported data been cross-checked with other available data?	Yes. The reported data has been checked from the approved revised CPA DD
How were the values in the monitoring report verified?	The project devices were solely replace non-improved, open/three-stone fires using firewood (not briquettes or charcoal) and therefore the parameter is fixed for the crediting period. This was cross verified by the interview from the end users.
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?	Not Applicable
In case only partial data are available	Not applicable.

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?	
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Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Data / Parameter: (as in monitoring plan of CPA-DD):	Net calorific value of the non-renewable woody biomass that is used in project devices (NCVbiomass)
Measuring frequency/Time Interval:	Fixed
Reporting frequency:	Annually It is to be noted that the monitoring of parameter for the applicable CPA (6864-P2-0006-CP1) is for a period of less than 1 year (01/07/2020 – 31/12/2020) only
Reported value:	0.0156
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Not Applicable. Fixed as per AMS II.G, version 10
Is accuracy of the monitoring equipment as stated in the CPA-DD? If the CPA-DD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Not Applicable.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Not applicable
Is the calibration interval in line with the monitoring plan of the CPA-DD? If the CPA-DD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Not applicable
Company performing the calibration (internal or external calibration):	Not applicable
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Not applicable
Is (are) calibration(s) valid for the whole reporting period?	Not applicable
If applicable, has the reported data been cross-checked with other available data?	Yes, Baseline fuel use is captured during the stove installation process and recorded in the monitoring database to ensure that only households using woodfuel as a baseline are included in the project
How were the values in the monitoring report verified?	The project devices (ICS) will solely use wood fuel (not briquettes or charcoal). Therefore, the parameter is fixed for the crediting period.
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?	Not applicable
In case only partial data are available because activity levels or non-activity	Not applicable.

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?	Full data is available for the monitoring period.
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Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Data / Parameter: (as in monitoring plan of CPA-DD):	Number of project devices of type i and batch j operating during year y (Ny,i,j)
Measuring frequency/Time Interval:	Continuous
Reporting frequency:	Biennial It is to be noted that the monitoring of parameter for the applicable CPA (6864-P2-0006-CP1) is for a period of less than 1 year (01/02/2020 to 30/06/2020) only
Reported value:	42,188
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Not Applicable. The stove installations are monitored via CPA distribution record /06/ and operational rate is monitored on sampling basis using questionnaire survey /05/.
Is accuracy of the monitoring equipment as stated in the CPA-DD? If the CPA-DD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Not applicable
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Not applicable
Is the calibration interval in line with the monitoring plan of the CPA-DD? If the CPA-DD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Not applicable.
Company performing the calibration (internal or external calibration):	Not applicable
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Not applicable
Is (are) calibration(s) valid for the whole reporting period?	Not applicable
If applicable, has the reported data been cross-checked with other available data?	Yes. The total number of project ICS distributed has been cross-checked from the stove distribution database /06/. The information on number of project ICS in operation as provided in the monitoring survey database /05/ were verified randomly during remote interviews with the survey forms/records /05/ and further crosschecked through interview of the household representatives.
How were the values in the monitoring	The values in the monitoring report have been

report verified?	<p>verified from the review of stoves distribution database /06/, monitoring survey database /05/ sample survey records /05/ and the ER spread sheet /04/.</p> <p>DOE used acceptance sampling during verification to check the number of project devices in operation during the monitoring period and a total of eight (08) households were surveyed remotely by the VT.</p> <p>During the survey by DOE it was observed that the response provided by the end-users to the VT for number of project devices in operation matched with the response provided during the monitoring survey and recorded in the survey forms /05/.</p>
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?	The necessary QA/QC for this parameter is in place. The verification team has cross checked the audit trail of the data management for this parameter (stove distribution database /06/, Beneficiary agreements /09/). Furthermore, the verification team confirmed the competence of the team involved in monitoring and recording through interviews and by reviewing the training documents /13/.
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?	<p>Not applicable.</p> <p>Full data is available for the monitoring period.</p>

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Data / Parameter: (as in monitoring plan of CPA-DD):	Adjustment to account for any continued use of pre-project devices during the year y (μy)
Measuring frequency/Time Interval:	Continuous
Reporting frequency:	Biennial
Reported value:	It is to be noted that the monitoring of parameter for the applicable CPA (6864-P2-0006-CP1) is for a period of less than 1 year (01/02/2020 to 30/06/2020) only
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	0.9680
Details of monitoring equipment:	Yes
Is accuracy of the monitoring equipment as stated in the CPA-DD? If the CPA-DD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Not Applicable.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Not applicable
Is the calibration interval in line with the	Not applicable.

monitoring plan of the CPA-DD? If the CPA-DD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	
Company performing the calibration (internal or external calibration):	Not applicable
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Not applicable
Is (are) calibration(s) valid for the whole reporting period?	Not applicable
If applicable, has the reported data been cross-checked with other available data?	Yes. Adjustment to account for any continued use of pre-project devices during the year y has been cross verified from the monitoring survey records of the sampled household surveyed for the presence of a baseline (traditional) stove/three stone fire and any residual usage alongside the project ICS will be assessed.
How were the values in the monitoring report verified?	The values in the monitoring report have been verified from the review of stoves distribution database /06/, monitoring survey database /05/ sample survey records /05/ and the ER spread sheet /04/. DOE used acceptance sampling during verification to check any continued use of pre-project devices during the monitoring period and a total of eight (08) households were surveyed remotely by the VT. During the survey by DOE it was observed that the response provided by the end-users to the VT for number of continued use of pre-project devices matched with the response provided during the monitoring survey and recorded in the survey forms /05/.
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?	The necessary QA/QC for this parameter is in place. The verification team has cross checked the audit trail of the data management for this parameter (stove distribution database /06/, Beneficiary agreements /09/). Furthermore, the verification team confirmed the competence of the team involved in monitoring and recording through interviews and by reviewing the training documents /13/.
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?	Not applicable. Full data is available for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Data / Parameter: (as in monitoring plan of CPA-DD):	Thermal efficiency of the stove ($\eta_{new,i}$)
Measuring frequency/Time Interval:	Annual
Reporting frequency:	Annual

	It is to be noted that the monitoring of parameter for the applicable CPA (6864-P1-0005-CP1) is for a period of less than 1 year (01/07/2020 – 31/12/2020) only
Reported value:	0.3404
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	<p>Weighing Scale: Type: SF-400 Manufacturer: KitchenGear Max. Capacity: 10kg Accuracy class: +/- 1 g Date of purchase: 22/04/2021 Calibration frequency: Annual Calibrated by manufacturer</p> <p>Digital Thermometer: Type: HACCP Thermometer EN 13485 – S/E/0.5TPT9282A Manufacturer: Terminator Alla France Range: -50oC to + 200150oC Accuracy class: +/- 0.51 oC % Date of purchase: 28/04/2021 Calibration frequency: Annual Calibrated by manufacturer</p> <p>Moisture meter: Type: 606-1 Portable Manufacturer: TESTO Range: 0.0 to 54.8% by weight (depending upon material) Accuracy class: +/- 1% Date of purchase: 15/02/2021 Calibration frequency: Annual Calibrated by manufacturer</p>
Is accuracy of the monitoring equipment as stated in the CPA-DD? If the CPA-DD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Approved CPA-DD /B04/ do not specify the accuracy of the monitoring equipment. Verification team confirms that the accuracy of the monitoring equipment as stated in the MR represent good monitoring practice based on sectoral expertise.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	The calibration frequency has not been specified in the Approved CPA-DD /B04/ or the monitoring methodology. Annual calibration frequency has been adopted by the CME and is deemed acceptable by the verification team based on its sectoral expertise.
Is the calibration interval in line with the monitoring plan of the CPA-DD? If the CPA-DD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	The calibration frequency has not been specified in the Approved CPA-DD /B04/ or the monitoring methodology. Annual calibration frequency has been adopted by the CME and is deemed acceptable by the verification team based on its sectoral expertise.
Company performing the calibration (internal or external calibration):	External. Calibrated by manufacturer.
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been	The data has been cross-checked with the WBT test

cross-checked with other available data?	documents /19/. For the stove efficiency parameter, WBT have been performed and this has been checked by the verification team with the related spreadsheets. Furthermore, the verification team has cross checked all the raw data input records in the WBT calculation spread sheets including the calculation procedure for the sampled households and found them to be correct. All the raw data forms for the WBT carried out for efficiency parameter were checked by the verification team and thus no sampling of data is required.
How were the values in the monitoring report verified?	The values in the MR were verified from the WBT records /19/ and the ER spread sheet /04/.
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?	<p>Yes.</p> <p>As the monitoring parameter under consideration is determined by standardized test procedures (WBT), the QA/QC and calibrations are at the test conduction by the measuring team for WBT. Accordingly, the verification team has focused on abilities, qualifications and recognition of involved personnel and institutions of the measuring team involved in the WBT. The WBT has been carried by the representative of CPA implementer. The WBT has been carried out by the well-trained personnel of the CPA implementer and training certificate of the personnel has been provided to the verification team in this respect /13/, /19/.</p> <p>During the remote interviews it was confirmed that the team was qualified as confirmed by reviewing the competency documents and trained to carry out WBT in line with the protocol /15/.</p>
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?	<p>Not applicable.</p> <p>Full data is available for the monitoring period.</p>

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Data / Parameter: (as in monitoring plan of CPA-DD):	The operating lifetime of the project device. (Life Span)
Measuring frequency/Time Interval:	Annual
Reporting frequency:	<p>Recorded at the time of distribution/installation of project devices</p> <p>It is to be noted that the monitoring of parameter for the applicable CPA (6864-P2-0006-CP1) is for a period of less than 1 year (01/07/2020 – 31/12/2020) only.</p>
Reported value:	5
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Not Applicable.
Is accuracy of the monitoring equipment as stated in the CPA-DD? If the CPA-DD does not specify the accuracy of the monitoring equipment, does the	Not applicable

monitoring equipment represent good monitoring practise?	
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Not applicable
Is the calibration interval in line with the monitoring plan of the CPA-DD? If the CPA-DD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Not applicable
Company performing the calibration (internal or external calibration):	Not applicable
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Not applicable
Is (are) calibration(s) valid for the whole reporting period?	Not applicable
If applicable, has the reported data been cross-checked with other available data?	Yes. DOE has cross checked the value from the Manufacturer Specifications.
How were the values in the monitoring report verified?	Each stove manufacturer will provide an estimate of the life span of each project device type and DOE has cross checked the value from the manufactured specifications provided by CME.
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?	Not applicable.
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?	Not applicable.

Monitoring Parameter Requirement	Assessment/ Observation by the DOE
Data / Parameter: (as in monitoring plan of CPA-DD):	Number of project devices distributed per household (Nd,hh)
Measuring frequency/Time Interval:	Annual
Reporting frequency:	Recorded at the time of distribution/installation of project devices It is to be noted that the monitoring of parameter for the applicable CPA (6864-P2-0006-CP1) is for a period of less than 1 year (01/07/2020 – 31/12/2020) only
Reported value:	1.0
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Not Applicable.
Is accuracy of the monitoring equipment as stated in the CPA-DD? If the CPA-DD	Not applicable

does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Not applicable
Is the calibration interval in line with the monitoring plan of the CPA-DD? If the CPA-DD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	Not applicable
Company performing the calibration (internal or external calibration):	Not applicable
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Not applicable
Is (are) calibration(s) valid for the whole reporting period?	Not applicable
If applicable, has the reported data been cross-checked with other available data?	Yes. DOE has cross checked the value at the time of remote audit from the end users. DOE applied the acceptance sampling for the parameter and cross checked the same by interviewing end users.
How were the values in the monitoring report verified?	DOE has cross checked the value at the time of remote audit from the end users. DOE has applied the acceptance sampling for the parameter and cross checked the same by interviewing end users
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?	Not applicable.
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?	Not applicable.

Appendix 6. Assessment of Monitoring parameters monitored through sampling/surveys

SI. No	Checklist questions	Assessment												
1.	Does the Monitoring Report apply sampling for determination of ex-post monitoring parameters?	Yes, there are ex-post monitoring parameters determined through the sampling effort.												
2.	Is the applied sampling plan in accordance with the sampling plan proposed in the registered PoA-DD/ PDD?	Yes, the applied sampling plan is in accordance with the sampling plan proposed in the approved PoA-DD/CPA-DD /B04/.												
3.	<p>List the parameters determined through sampling and respective parameters of interest.</p> <p>[In situations where monitoring is based on data recording once at the time of implementation particularly for distribution projects, where there are large/dispersed number of project technology, the VV team shall make the confirmation to assess its accuracy during the onsite verification through document review and where applicable through acceptance sampling.]</p> <p>[The assessment of implementation status of distribution projects or projects having dispersed and large number of components, it is pertinent that the VV Team shall assess that all physical features (technology, project equipment, and monitoring and metering equipment) of the included CPAs/projects as specified in the included CPA-DDs/PDD in cases where the households/users dropped out or voluntarily leave the project. In this particular case, it is important to assess CME/PP's QA/QC procedures with regards to handling of its database and where applicable consider those dropped out technology as a part of assessment of sampling requirements, including acceptance sampling by DOE.]</p>	<p>Parameters determined through sampling and respective parameters of interest is:</p> <table border="1"> <thead> <tr> <th>Parameter</th><th>Description of Parameter</th><th>Parameter of Interest</th></tr> </thead> <tbody> <tr> <td>$N_{y,i,j}$</td><td>Number of project devices of type i and batch j operating during year y</td><td>Proportion</td></tr> <tr> <td>$\eta_{new,i}$</td><td>Thermal efficiency of the stove</td><td>Mean</td></tr> <tr> <td>(μy)</td><td>Adjustment to account for any continued use of pre-project devices during the year y</td><td>Proportion</td></tr> </tbody> </table> <p>All the parameters are monitored and reported on an annual basis and thus no parameter is recorded once at the time of implementation.</p> <p>There are no instances of households/end-users dropping out of technology and no situations where the households/users dropped out or voluntarily left the project.</p>	Parameter	Description of Parameter	Parameter of Interest	$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y	Proportion	$\eta_{new,i}$	Thermal efficiency of the stove	Mean	(μy)	Adjustment to account for any continued use of pre-project devices during the year y	Proportion
Parameter	Description of Parameter	Parameter of Interest												
$N_{y,i,j}$	Number of project devices of type i and batch j operating during year y	Proportion												
$\eta_{new,i}$	Thermal efficiency of the stove	Mean												
(μy)	Adjustment to account for any continued use of pre-project devices during the year y	Proportion												
4.	Is the sample size calculated in accordance with the formula presented in the registered PoA-DD/PDD?	Yes, the sample size calculated is in accordance with the formula presented in the approved PoA-DD/CPA-DD /B04/.												
5.	<p>Are the assumptions used for calculation of sample size appropriate and correct?</p> <p>P.S.: Provide assessment on appropriateness of value of proportion (p), standard deviation (STDEV) or variance (v) used for calculation of sample size</p>	<p>Yes, the assumptions used for calculation of sample size for parameters $N_{y,i,j}$, η_{new} and μy are appropriate and correct.</p> <p>The values for expected mean (34.04%) and expected standard deviation (1.70%) for the sample size calculation of the parameter η_{new} is based on test report for the stoves provided by IIT /08/.</p>												

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		<p>The value for expected proportion of NS and B_{new} is based on 97 % drop out rate for the stoves. This is in accordance with the section B.5.2 of the approved revised CPA-DD/B04/.</p> <p>The minimum value for the sample size has been complied with in accordance with the §14 of the sampling standard (version 08.0) /B07/.</p>																								
6.	<p>What are the sample sizes obtained for the parameters being monitored? Is the determined sample size deemed adequate for the parameter of interest being monitored?</p> <p>P.S.: If the sample size calculation returns a value of less than 30 samples, a minimum sample size of 30 shall be chosen when the parameter of interest is a proportion. If the parameter of interest is a numeric mean value (i.e. not a proportion or percentage) the Student's t-distribution shall be used if the resulting sample size is less than 30.</p> <p>[While assessing the sampling effort by the PP/CME particularly the sample size, the VV Team shall make sure the reliability criteria (confidence level and precision) should be as per the requirement of the applied methodology. Only when there is no specific guidance in the applied methodology for the sampling requirements, the confidence/precision as stated in the sampling standards should be considered. As a rule of thumb it is to be always kept in mind that the sampling requirements in the applied methodology shall take precedence.]</p>	<p>It was found that for all the parameters, the respective confidence/precision was met. The number of samples for each of the parameters covered during the monitoring activity is as given below:</p> <table border="1"> <thead> <tr> <th>Parameter</th><th>Parameter of interest</th><th>Calculated Sample Size (n)</th><th>Sample size after applying students t-distribution</th><th>Samples covered during monitoring</th><th>Precision Achieved</th></tr> </thead> <tbody> <tr> <td>$(N_{y,i,j})$</td><td>Proportion</td><td>12</td><td>N/A</td><td>37</td><td>0.00%</td></tr> <tr> <td>(μ_y)</td><td>Proportion</td><td>12</td><td>N/A</td><td>37</td><td>6.42%</td></tr> <tr> <td>$(\eta_{new,i,j})$</td><td>Mean</td><td>03</td><td>14</td><td>18</td><td>2.31%</td></tr> </tbody> </table> <p>The calculated sample size of twelve (12) in the case of $(N_{y,i,j})$ and (μ_y) was less than 30, the sample size required under §14 of the Standard: Sampling and surveys for CDM project activities and programmes of activities (version 09.0). However, CME has sampled 37 households and the sample size covered by the CME is acceptable to VT and is also fulfils the requirement of §14 of the Standard: Sampling and surveys for CDM project activities and programmes of activities (version 09.0).</p> <p>However, for parameter η_{new} the calculated sample size was three (03), which is less than 30 and hence a student's t-distribution test in accordance with §14 of <i>Standard: Sampling and surveys for CDM project activities and programmes of activities (Version 09.0)</i> was applied to re-calculate the sample size (n). The sample size arrived at after applying the student's t-distribution test was fourteen (14). However, the CPA implementer has sampled 18 households. The same is acceptable to VT.</p> <p>The same is deemed appropriate by VT and in accordance with the approved revised PoA-DD/CPA-DDs /B04/.</p>	Parameter	Parameter of interest	Calculated Sample Size (n)	Sample size after applying students t-distribution	Samples covered during monitoring	Precision Achieved	$(N_{y,i,j})$	Proportion	12	N/A	37	0.00%	(μ_y)	Proportion	12	N/A	37	6.42%	$(\eta_{new,i,j})$	Mean	03	14	18	2.31%
Parameter	Parameter of interest	Calculated Sample Size (n)	Sample size after applying students t-distribution	Samples covered during monitoring	Precision Achieved																					
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$(\eta_{new,i,j})$	Mean	03	14	18	2.31%																					
7.	<p>Has reliability specification been applied to determine the sampling requirements for each individual parameter value determined through a sampling effort?</p> <p>P.S.: If there is more than one parameter to be estimated in a CDM</p>	<p>Yes, reliability specification of 95/10 confidence/precision have been applied to determine the sample size for parameters as mentioned in the table below.</p> <table border="1"> <thead> <tr> <th>Parameter</th><th>Confidence and precision level</th></tr> </thead> </table>	Parameter	Confidence and precision level																						
Parameter	Confidence and precision level																									

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	project activity, then a sample size calculation should be done for each of them. Then either the largest number for the sample size is chosen for the sampling effort with one common survey, or the sampling effort and survey is repeated for each of the parameters. A random sub-sample within the common survey is allowed as long as: (i) the reliability specification (e.g. 90/10 confidence/precision for small-scale CDM project activities and 95/10 or large scale CDM project activities) is achieved for each individual parameter; and (ii) the random sub-sample is consistent with the design of the survey and the corresponding sample size calculation.	<table border="1"> <tr> <td>$(N_{y,i,j})$</td><td>95/10</td></tr> <tr> <td>(μ_y)</td><td>95/10</td></tr> <tr> <td>$(\eta_{new,i,j})$</td><td>95/10</td></tr> </table> <p>The same is deemed appropriate by VT and in accordance with the approved PoA-DD/CPA-DDs /B04/.</p>	$(N_{y,i,j})$	95/10	(μ_y)	95/10	$(\eta_{new,i,j})$	95/10						
$(N_{y,i,j})$	95/10													
(μ_y)	95/10													
$(\eta_{new,i,j})$	95/10													
8.	Is the assumed response rate reasonable (appropriate and correct) for the determination of samples to be surveyed?	Yes, the assumed response rate is reasonable (appropriate and correct) for the determination of samples to be surveyed for each of the parameter of interest.												
9.	Is the sample selected by PP for determination of the monitored parameters unbiased (random) and representative?	Yes, the verification team, based on review of list of random households as in the list of random samples and random sample generator /14/ provided by the CPA Implementer, confirms that sample selected by the CME for determination of the monitored parameters are random. It can be considered as representative of the population.												
10.	Has minimum target level of precision been achieved based on estimates from the actual samples?	<p>The target level of precision achieved based on estimates from the actual samples of all the CPA is as:</p> <table border="1"> <thead> <tr> <th>Parameter</th><th>Target precision level</th><th>Achieved Precision</th></tr> </thead> <tbody> <tr> <td>$(N_{y,i,j})$</td><td>10%</td><td>0.00%</td></tr> <tr> <td>(μ_y)</td><td>10%</td><td>6.42%</td></tr> <tr> <td>η_{new}</td><td>10%</td><td>2.31%</td></tr> </tbody> </table> <p>Yes, the minimum target level of precision been achieved based on estimates from the actual samples. The same was verified through review of ER Sheet /04/.</p>	Parameter	Target precision level	Achieved Precision	$(N_{y,i,j})$	10%	0.00%	(μ_y)	10%	6.42%	η_{new}	10%	2.31%
Parameter	Target precision level	Achieved Precision												
$(N_{y,i,j})$	10%	0.00%												
(μ_y)	10%	6.42%												
η_{new}	10%	2.31%												
11.	In case the minimum target level of precision has not been achieved based on estimates from the actual samples, please specify the approach adopted by PP to reach the required precision and also justify the appropriateness of the adopted approach in accordance with the applied methodology or paragraph 18 of Sampling and surveys for CDM project activities and programmes of activities (Version 08.0).	Not applicable since as assessed above the target level of precision has been achieved.												
12.	Has VT applied acceptance sampling to verify that the results of sampling efforts undertaken by PP for determination of ex-post parameters. If yes, please provide a detailed justification of the approach adopted including information on (but not limited to): (a) Selected AQL Level (b) Selected UQL Level	In line with §26 of the Sampling Standard /B07/, the verification team has applied a sampling approach for remote interviews surveys as part of verification. Please refer to the assessment under section D.4 of this report.												

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	(c) Selected Consumer Risk Level (d) Selected Producer Risk Level (e) Sample Size chosen for acceptance sampling (f) Acceptance number (c) Approach adopted by VT to in case value of greater than c discrepant records were observed in the sample	
13.	Are the procedures for the selected survey and data collection method unambiguously defined and do they adequately provide for minimizing non-sampling errors?	Verification team based remote interviews and review of documented procedure confirms that the selected survey and data collection method is unambiguously defined. This also adequately ensures minimizing non-sampling errors.
14.	Have potential sources of bias inherent in the selected data collection method, such as self-selection and under-coverage, been anticipated? Have mechanisms for mitigating these been considered?	Review of sampling records, documented procedure and remote interviews with the personnel responsible for conducting WBT/Surveys does not reveal any sources of bias inherent in the selected data collection.
15.	Is the quality control and assurance strategy adequate?	Verification team based on review of provided supporting documents and remote interviews confirm that the quality control and assurance strategy is adequate.
16.	Are the proposed skill sets, qualifications and experience of the personnel/institutions engaged to conduct the standardized tests/data collection exercise adequate?	<p>Thermal efficiency of the stoves is determined through WBT. As the monitoring parameter under consideration is determined by standardized test, the QA/QC and calibrations are set at the level of test conducted by the measuring team.</p> <p>Accordingly, the verification team has focused on abilities, qualifications and recognition of personnel and institutions of the measuring team involved in the WBT.</p> <p>Through the interview of personnel responsible for carrying out WBT it was ascertained that the personnel are competent to carry out the standardized tests and follow the instructions and requirements of WBT protocol /15/ for carrying out such tests. Furthermore, the Verification Team also reviewed the training certificates and records /13/, /19/ of the personnel and ascertained that they are trained before undertaking the WBT to refresh their skills. The same is found acceptable by Verification Team.</p> <p>The monitoring equipment used for conducting the stove efficiencies by WBTs are thermometer, weighing machine and moisture meter.</p> <p>All the equipment including the thermometer, moisture meter and weighing scale used for WBT has been newly purchased and is factory calibrated and the same has been cross-checked through review of purchase receipts /12/, manufacturer's specifications /10/, /11/, /22/.</p>

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17.	<p>the PP have a process in place to ensure data quality is maintained to a high standard? This should include:</p> <ul style="list-style-type: none"> a) Are the personnel trained and experienced? b) What is the level of supervision and guidance provided to staff? c) Is there a standardized system for data entry and analysis to produce final result? d) Is there a system or process in place to minimize the introduction of errors? e) Is there a system in place to ensure all collected data is processed; f) Are quality checks performed on data entered, for example range checks, g) inconsistency checks, checking of subsamples of data by supervisors; h) is there a system to check for errors, record and report errors reported and document the remedial action taken; i) What is the level of security and type of backup processes to guarantee data integrity, for example methods to prevent fraud and accidental deletion? 	<p>Verification team based on review of provided supporting documents and remote interviews confirms the following:</p> <ul style="list-style-type: none"> ✓ the Personnel involved in the WBT/surveys are trained and experienced. ✓ there exists a standardized system for data entry and analysis to produce final result. ✓ There exist a system or process in place to minimize the introduction of errors. ✓ there is a system in place to ensure all collected data is processed. ✓ there exists a quality check of data entered.
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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
04.0	6 April 2021	Revision to: <ul style="list-style-type: none">• Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
03.0	31 May 2019	Revision to: <ul style="list-style-type: none">• Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN);• Make structural and editorial improvements.
02.0	29 December 2017	Revision to align with the requirements of the “CDM validation and verification standard for programme of activities” (version 01.0).
01.0	5 June 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: programme of activities, verifying and certifying		