




**Verification and certification report form for
CDM programme of activities
(Version 03.0)**

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)	Improved Cooking Stoves Programme of Activities in Africa UNFCCC ID: PoA5341	
Version number(s) of the PoA-DD(s) to which this report applies	Version 3.2	
Version number of the verification and certification report	1.1	
Completion date of the verification and certification report	18/09/2020	
Monitoring period number and duration of this monitoring period	6 (Sixth monitoring period) 01/07/2019 - 31/03/2020 (both days included)	
Number and version number of the monitoring report to which this report applies	Monitoring Report Number: 1 Version: 3.0	
Coordinating/managing entity (CME)	Envirofit International Ltd.	
Host Parties	Host Parties of the PoA	Is this a host Party to a CPA covered in this report? (yes/no)
	Kenya	Yes
	South Africa	No
Applied methodologies and standardized baselines	AMS-IL.G.: Energy efficiency measures in thermal applications of non-renewable biomass, version 03.0 Standardized baseline: N/A	
Mandatory sectoral scopes	3: Energy Demand	
Conditional sectoral scopes, if applicable	N/A	
Estimated amount of GHG emission reductions or GHG removals for this monitoring period in the included CPAs covered in this report	CPA	Estimated amount (t CO₂e)
	5341-P1-0008-CP1	32,655
	5341-P1-0009-CP1	32,655
	5341-P1-0010-CP1	32,655
	Total	97,965
Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs covered in this report	CPA	Amount achieved (t CO₂e)
	5341-P1-0008-CP1	24,210
	5341-P1-0009-CP1	17,936
	5341-P1-0010-CP1	14,600
	Total	56,746
Name and UNFCCC reference number of the DOE	TÜV NORD CERT GmbH E-0022	

Name, position and signature of the approver of the verification and certification report	 Final Approver Stefan Winter
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SECTION A Executive summary

Envirofit International Ltd. (Envirofit) has commissioned the TÜV NORD JI/CDM Certification Program to carry out the sixth periodic verification of the CDM Programme of Activities (CDM-PoA 5341):

“Improved Cooking Stoves Programme of Activities in Africa”

with regard to the relevant requirements for CDM PoAs.

This verification covers the period from 01/07/2019 - 31/03/2020 (both days included)

The programme of activities reduces GHG emissions by distributing ICS under the PoA which are portable and combust charcoal or woodfuel (as applicable) as fuel. These ICSs are more efficient in transferring heat from the fuel to the pot, thus saving charcoal/woodfuel, compared to the traditional charcoal/woodfuel stoves used by the project households in the baseline. The relevant CPAs under consideration (5341-P1-0008-CP1, 5341-P1-0009-CP1 and 5341-P1-0010-CP1) and covered in this verification, reduce GHG by disseminating fuel efficient charcoal and wood stoves.

Details of the PoA location are given in table A-1 below:

Table A-1: Project Location of CPA 5341-P1-0008-CP1, 5341-P1-0009-CP1 and 5341-P1-0010-CP1

No.	Project Location
Host Country	Republic of Kenya
Region:	Entire country
Latitude:	-1.283249
Longitude:	36.816663

Basic technical detail of the PoA is summarized in table A-2.

Wood stoves type distributed in the covered CPAs are Econofire / SmartSaver Wood and M5000 / SuperSaver Wood, while charcoal stove types distributed in the covered CPAs are Econochar / SmartSaver Charcoal, CH5300 and CH5200.

Table - A-2: Technical data of the CPA (5341-P1-0008-CP1, 5341-P1-0009-CP1 and 5341-P1-0010-CP1)

Stove Type	Parameter	Unit	Value
M5000/ SuperSaver Wood	Average Thermal Efficiency	%	29.7
	Dimensions	cm	28.0 x 26.5 x 26.5 (height x width x depth)
	Life span	years	4 - 5
	manufacturer	-	Envirofit International Ltd.
Econofire/ SmartSaver Wood	Average Thermal Efficiency	%	30.2
	Dimensions	cm	25.5 x 40 x 35.5 (height x width x depth)
	Life span	years	2 - 4
	manufacturer	-	Envirofit International Ltd.
CH5300	Average Thermal Efficiency	%	35.7
	Dimensions	cm	36.6x31.5x26 (height x width x depth)
	Life span	years	4 - 5
	manufacturer	-	Envirofit International Ltd.
Econochar/ SmartSaver Charcoal	Average Thermal Efficiency	%	34.3
	Dimensions	cm	28 x 37 x 42 (height x width x depth)
	Life span	year	2 - 4
	manufacturer	-	Envirofit International Ltd.
CH5200	Average Thermal Efficiency	%	36.1
	Dimensions	cm	16.2 x 37.5 x 31 (height x width x depth)
	Life span	year	4 - 7
	manufacturer	-	Envirofit International Ltd.

As a result of this verification, the verifier confirms that:

- all operations of the three CPAs (5341-P1-0008-CP1, 5341-P1-0009-CP1 and 5341-P1-0010-CP1), which are claiming CERs, are implemented and installed as planned and described in the

component project activities design document.

- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS-IL.G. ver. 03.0
- the equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The CPAs have generated GHG emission reductions.

As a result of the 6th periodic verification of CPA 5341-P1-0008-CP1, 5341-P1-0009-CP1 and 5341-P1-0010-CP1, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above-mentioned reporting 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	EI	Mishra	Prakash Kumar	-	x	x	x	x

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Stöhr	Christina	TÜV NORD CERT
2.	Technical reviewer /Approver	IR	Winter	Stefan	TÜV NORD CERT

SECTION C. Application of materiality in conducting the verification

C.1. Consideration of materiality in planning the verification

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

Materiality Threshold

The verification is based on the materiality threshold identified in table C-1 below:

Table C-1: Applied Materiality Threshold

	Threshold	Related to
<input type="checkbox"/>	0.5 %	Emission reductions or removals for registered CDM project activities achieving a total emission reduction or removal equal to or more than 500,000 tonnes of carbon dioxide equivalent per year ¹ ;
<input type="checkbox"/>	1 %	Emission reductions or removals for registered CDM project activities achieving a total emission reduction or removal of between 300,000 and 500,000 tonnes of carbon dioxide equivalent per year;
<input type="checkbox"/>	2 %	Emission reductions or removals for registered large-scale CDM project activities achieving a total emission reduction or removal of 300,000 tonnes of carbon dioxide equivalent per year or less;
<input checked="" type="checkbox"/>	5 %	Emission reductions or removals for registered small-scale CDM PoA other than registered CDM PoA covered under next category below;
<input type="checkbox"/>	10 %	Emission reductions or removals for the type of registered small-scale CDM PoA referred to in decision 3/CMP.6, paragraph 38 (referred to as microscale project activities).

Strategic Analysis

At the beginning of the verification the verification team leader has assessed the nature, scale and complexity of the verification tasks by carrying out a strategic analysis of all activities relevant to the project activity. The team leader has collected and reviewed the information relevant to assess that the designated verification team is sufficiently competent to carry out the verification and to ensure that it is able to conduct the necessary risk analysis.

Risk analysis and detailed audit testing planning

For the identification and assessment of potential reporting risks and to determine the necessary detailed audit testing procedures for residual risk areas the following table is used.

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.	Analysis and transfer of data from: <ul style="list-style-type: none"> CPA Distribution Record sales database, household usage Survey and WBT Reports for parameters under monitoring, to MR and excel ER spreadsheet. 	Medium	Human error during transfer of data to Sales record, Usage Survey reports and WBT reports/sheet for BE, PE and ER calculations	Thorough cross-check and assessment required on the generation and transfer of data to the ER spreadsheet. Assessment of sample CPA Distribution Records/Sales receipts, Usage Survey reports and WBT reports/sheet for Usage rate, change in efficiency, fuel consumption by baseline stoves still in use, no of days stoves under operation, appropriateness of sampling plan etc. Assessment of information flow processes, data reporting, aggregation, management, and QA/QC procedures in place by CME to ensure the database is accurate

On the basis of the risk analysis the verification has been planned. A detailed audit / verification plan has been prepared and submitted to the project participant(s) in due time before the Remote Assessment.

C.2. Consideration of materiality in conducting the verification

Based on the verification planning, verification process is carried out. The concept of materiality considered during the verification process. A breakdown of the chosen approaches is included in the following table.

¹ A year refers to a period of 12 consecutive months.

Parameter	Approach ⁺	Errors* detected	Findings reference	Corrected	Remaining verification risk
N_{all}	CDC	☒	CAR 01, CAR 02, CAR 03, CAR 04	☒	Not material
SOF	ASP	☒	CAR 01, CAR 02, CAR 03	☒	Not material
f_{old}	ASP	☒	CAR 02, CAR 04	☒	Not material
μ_{old}	ASP	☒	CAR 01, CAR 02, CAR 04	☒	Not material
$\eta_{new,y}$	ASP	☒	CAR 01, CAR 02, CAR 04	☒	Not material
Stove _{year}	CDC	☒	CAR 01, CAR 02, CAR 04	☒	Not material
Aggregate				Materiality threshold not exceeded	

^{*)} incl. omissions and misstatements

^{+) Verification Approaches:}

CDC: Complete data check of data including all data aggregation steps

NDC: Non-complete data check – omissions not material

SPL: Sampling approach (all data available)

ASP: Acceptance Sampling

COM: Data check at higher data aggregation levels and sampling at original data levels

For above risk mentioned in section C.1, the verification team has conducted a thorough cross check and verification as follows:

Analysis and transfer of data from sales records, household usage Survey and WBT Records for parameters under monitoring to MR and excel ER spreadsheet: Total sales records presented in ER calculation spreadsheet for the respective CPAs were assessed and verified against CPA distribution records/database during desk review and remote audit assessment. CME conducts monitoring annually in accordance with registered monitoring plan. The Verification Team has assessed the values of different parameters under monitoring (**SOF**, **f_{old}** , **μ_{old}** , **$\eta_{new,y}$**) and found them to be acceptable without material misstatements.. The results of monitoring survey conducted in April - May 2020 were assessed and compared with interviewees' response during remote assessment and values presented in the MR were verified to be correct and accurate. Furthermore, Verification Team also compared the remote assessment observations with data presented in the Usage Survey records (**SOF**, **f_{old}** , **μ_{old}**) and the Usage Rate (**SOF**), continued use of baseline stove fraction (**f_{old}**) and related amount of woody biomass consumption in the continued old stoves (**μ_{old}**) values applied in the emission reduction spread sheet are confirmed to be presented correctly.

The value of **$\eta_{new,y}$** , i.e. "Efficiency of the system being deployed as part of the project activity" is compared with WBT test records of all the models involved (conducted during April - May 2020) and the corresponding excel spreadsheet calculation^{WBT/} were found consistently reported.

The verification team reviewed and compared available data at CME office (total sales record, Warranty Cards, Usage Survey, WBT records etc.) and database presented for total ICS sales for which CERs are claimed under the current monitoring period. Based on above, verification team has issued findings (CAR/CLs) which can be referred in table above and Appendix-4 and Appendix-5 of this report.

SECTION D. Means of verification

D.1. Desk/document review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the registered PoA-DD including the monitoring plan^{/PoA-DD/},
- the registered CPA-DDs
- the registered CPA validation reports^{/VAL/},
- the monitoring report, including the claimed emission reductions for the PoA^{/MR/},
- Usage Survey Records^{/USAGE/} and related work sheets^{/RC/}
- Water Boiling Test Records^{/WBT/} and related work sheets
- the emission reduction calculation spreadsheet^{/XLS/}.
- CPA Distribution Records and Sales Receipts
- Sample size calculation spreadsheet for Usage Survey and WBT^{/USAGE/}
- Sales Database

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed.

D.2. On-site inspection

Remote audit assessment:

Due to the COVID-19 pandemic there was restricted movement in Host Country of Kenya where movement in the field was not permitted and hence Verification Team, in line with UNFCCC INQ-09667 (email reply from Secretary to The CDM Executive Board, dated 20/03/2020) where agreement to relax mandatory site visit by DOE for period of 03 months which was further extended up to December 2020². The extension was conditionally permitted to apply alternative and credible means of verification. The Verification Team has presented the reasoning to demonstrate the fulfilment of conditions to initiate the Remote Audit Assessment:

Sr. No	Condition	Applicable (Y/N)	Justification
1.	Para 321 of VVS-PS It is mandatory for the DOE to conduct an on-site inspection at verification for the included CPA if: (a) It is the first verification for the DOE with regard to this CPA; (b) More than three years have elapsed since the last on-site inspection conducted for verification for the CPA; or (c) The CPA has achieved more than 300,000 t CO ₂ e.q. of GHG emission reductions or net anthropogenic GHG removals since the last verification when an on-site inspection was conducted.	N	The verification for the CPAs 008, CPA 009 and CPA 010 is not undergoing the first periodic verification and the CERs are not more than 300,000 tCO ₂ . This verification immediately follows the previous year verification. The site visit dates for last verification were 30/09/2019 to 02/10/2019. Thus, the site visit is not mandatory as per § 321 (a), (b) and 321 (c).
Justification to avail temporary measures as per agreement to relax mandatory site visit by DOE			
2.	Can the site visits be postponed	N	Client has the delivery deadlines of CER's so postponing site visit will cause negative impact on CER delivery commitment by CME. Thus, site visit cannot be postponed.
3.	Is it possible to travel to host country Kenya and undertake site visits	N	Global Travel Ban is not allowing the VT to visit to Host country Kenya.

² https://cdm.unfccc.int/newsroom/latestnews/releases/2020/01041_index.html

Applied Other Credible means of verification:

The credible other means of verification is applied to cross check on-ground information as described below:

Photographs of sampled stove users: These include the photos of the ICS samples monitored by CME with clear depiction of the stove serial number, stove model etc to confirm the implementation of the project as described in the CPA-DDs. Other records e.g. usage survey records and water boiling tests results/records, which are assessed to verify the sampled ICS operational status and efficiency tests performed over the applied monitoring period, etc. The photograph records are stored in the QMS system of DOE; these records are retrievable and assessable.

Skype Video Calls (Recorded): This tool has allowed to connect multiple stakeholders such as CME, project developer/ consultant, relevant personnel from monitoring survey team and the WBT Team, all other relevant persons as per the organogram of the PoA/ CPA including QA/ QC key personnel and sampled end users. The VT could virtually verify the implementation of the project against the requirements in the registered CPAs via interviews with all the above-mentioned parties including sampled end users using this tool. The selected end users were interviewed by the verification team to verify individual end user records (Stove serial number, stove model, date of sale, usage status, baseline stove usage (if any), WBT (as applicable)) submitted by PP and were found correct and consistent with the observations made on the video calls. The video calls were recorded, stored and maintained so that the assessments of the Verification Team are traceable and reproducible if required.

Furthermore, the data collected during the above steps are further utilized for assessments which is described in relevant parts of the Verification Report.

Duration of Remote-site inspection: 19/06/2020 to 20/06/2020				
No.	Activity performed on-site	Site location	Date	Team member
1.	<ul style="list-style-type: none"> Opening meeting Assessment of the sales database Assessment of sample end-user warranty cards (sales receipts) Comparison of end-user data/Warranty cards information in the database (dates, serial numbers, names, locations etc.) Assessment of data management system, QA/QC procedures Interviews with Retailer (NAIVAs) Interviews with Envirofit staff for data checking Interview with Envirofit staff responsible for data entry Interviews with CME representative Discussion of emission reductions and supporting documentation Telephonic interview with ceramic liner producer Telephonic interview with distant users of project stoves 	Remotely	19/06/2020 to 20/06/2020	Prakash Kumar Mishra (PKM)
2.	Meeting with (Field Survey team and WBT team) Interviews with relevant personnel, retailers, involved in GHG monitoring of this PoA	Remotely	19/06/2020 to 20/06/2020	
3.	Visit of randomly selected households from CME's survey sample	Remotely	19/06/2020 to 20/06/2020	
4.	Discussion on MR and supporting documents and final closing meeting	Remotely	20/06/2020	

D.3. Interviews*

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Lohia	Rohit	Carbon Manager – Envirofit International (CME)	30/09/2019	Stove sales, Information flow, data Management, Financial Management, staff training, sales database, usage and maintenance of record, WBT procedures Equipment, Calibration, training, monitoring report, ER Calculations, raw data, sales database	Prakash Kumar Mishra
2.	Small	David	Managing Director-Envirofit Kenya	19/06/2020 to 20/06/2020	Stove Designing, production, CPA development, raw data, sales database	
3.	Yuguna	Peter	Carbon Monitoring – Envirofit Kenya	19/06/2020 to 20/06/2020	Usage Survey procedure, generation of survey result and reporting, training etc. WBT procedures Equipment Calibration, training Stove sales, Information flow, data Management, Financial Management, staff training, sales database, Demand, Supply, usage and maintenance of record,	
5.	Opno	Paul	Business Manager -EFK	19/06/2020 to 20/06/2020	Demand, Supply, usage and maintenance of record	
6.	Mutgana	Faith	Customer Care Manager – EFK	19/06/2020 to 20/06/2020	WBT procedures Equipment Calibration, training	
7.	Karnga	Evans	Accountant- Thikagiki Ficles	19/06/2020 to 20/06/2020	Generation of sales database, Data entry, reporting, QA/QC Date of purchase, Warranty/receipt, carbon waiver, household size, serial number, source of purchase, Usage rate, Stove performance, pre-project stove, continued of baseline stove, if part of usage survey, how usage survey was conducted, if part of WBT, how WBT was conducted (if applicable)	
8	Tinina	Rita	ICS User (CH5300)	19/06/2020	DOE Remote Audit Survey	
9	Oliver	Mark	ICS User	19/06/2020	DOE Remote Audit	

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			(CH5300)		Survey	
10	Wacheci Gakuru	Tabitha	ICS User (CH5300)	19/06/2020	DOE Remote Audit Survey	
11	Muigai	Moses	ICS User (CH5300)	19/06/2020	DOE Remote Audit Survey	
12	Waithera Kabue	Josephine	ICS User (CH5300)	19/06/2020	DOE Remote Audit Survey	
13	Karanja Njuguna	David	ICS User (CH5200)	19/06/2020	DOE Remote Audit Survey	
14	Rispa	Vivian	ICS User (Econochar)	19/06/2020	DOE Remote Audit Survey	
15	Njoki Mwangi	Hannah	ICS User (CH5300)	19/06/2020	DOE Remote Audit Survey	
16	Wanjiru	Ann	ICS User (Econochar)	19/06/2020	DOE Remote Audit Survey	
17	Mbuthia Gituku	Joseph	ICS User (Econochar)	19/06/2020	DOE Remote Audit Survey	
18	Mimera Gakuru	Cornelious	ICS User (Econochar)	19/06/2020	DOE Remote Audit Survey	
19	Gakuru	Samuel	ICS User (M5000)	19/06/2020	DOE Remote Audit Survey	
20	Mwangi	Peter	ICS User (Econofire)	19/06/2020	DOE Remote Audit Survey	
21	Nganga Kamau	Samuel	ICS User (Econofire)	19/06/2020	DOE Remote Audit Survey	
22	Njau Kamangati	James	ICS User (Econofire)	19/06/2020	DOE Remote Audit Survey	
23	Nganga Kimani	Joseph	ICS User (Econofire)	19/06/2020	DOE Remote Audit Survey	
24	Njeri	Hanna	ICS User (Econofire)	19/06/2020	DOE Remote Audit Survey	
25	Wambui m	Jacinta	ICS User (Econofire)	19/06/2020	DOE Remote Audit Survey	
26	Nduku Ndimu	Jennifer	ICS User (M5000)	19/06/2020	DOE Remote Audit Survey	
27	Ndulu Wambua	Paulina	ICS User (M5000)	19/06/2020	DOE Remote Audit Survey	
28	Ndunge	Eunice	ICS User (M5000)	19/06/2020	DOE Remote Audit Survey	
29	Waiganjo Kamau	John	ICS User (Econofire)	19/06/2020	DOE Remote Audit Survey	

D.4. Sampling approach

D.4.1 Sampling during monitoring:

<input type="checkbox"/>	No sampling approach has been used by the PP to determine the monitored parameters
<input checked="" type="checkbox"/>	A sampling approach has been taken for the following monitored parameter(s):

Parameter	Sampling approach ¹⁾	Sampling Type ²⁾	Population		Sample Size	
SOF	SiRS	PS	Strata	Population	Sample Size (n) required	Sample covered
			SOF ^{Charcoal} (CH5300, CH5200 and Econochar)	25,475	43	87
			SOF ^{Woodfuel} (Econochar and M5000)	2,970	21	43
f_{old}	SiRS	PS	Strata	Population	Sample Size (n) required	Sample covered
			f _{old} Charcoal (CH5300, CH5200 and Econochar)	22,928	43	84
			f _{old} woodfuel (Econochar and M5000)	2,822	21	42
μ_{old}	SiRS	PS	Strata	Population	Sample Size (n) required	Sample covered
			μ _{old} Charcoal (CH5300, CH5200 and Econochar)	2,293	7	14
			μ _{old} woodfuel (Econochar and M5000)	141	7	7
η_{new,y}	SiRS	PS	Strata	Population	Sample Size (n) required	Sample covered
			η _{new,y} CH5200	884	7	10
			η _{new,y} CH5300	7203	7	10
			η _{new,y} Econochar	17388	7	10
			η _{new,y} M5000	1955	7	10
			η _{new,y} Econofire	1015	7	9

¹⁾ Sampling Approaches:

SiRS:	Simple Random Sampling
StRS:	Stratified Random Sampling
SS:	Systematic Sampling
CS:	Cluster Sampling
MSS:	Multi-stage Sampling

²⁾ Sampling Types:

PS:	Parameter Sampling
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A simple random sampling was carried out by PP across all specific-case CPAs covered in this monitoring report.

i. Sampling overview

Representative sampling has been undertaken as part of SSC-PoA-wide Sampling Plan (by grouping and sampling across CPAs). The Sampling is based on 95/10 confidence/precision.

ii. Objectives and Reliability Requirements

The objective was to obtain an unbiased and reliable estimate of the proportion or mean value of the following parameters over the course of the monitoring period, and with 95/10 confidence/precision for sampling across CPAs. This also follows the requirements as stated under the PoA-DD "PoA Sampling Plan".

1. Stove Operation Fraction – used to determine the share of distributed stoves that are still operating, measured ex-post through sampling (**SOF**)
2. The fraction of end users that are still using baseline (replaced) stoves (**f_{old}**)
3. The amount of woody biomass consumption that is consumed through the continued use of old stoves (**μ_{old}**)
4. Efficiency of the system being deployed as part of the project activity (**η_{new,y}**)

iii. Target Population

The target population for the four above mentioned parameters stated above are all ICS recorded in the project database.

iv. Sampling Frame

For parameter $\eta_{\text{new},y}$ population of each stove model is deemed homogenous due to similarity of the stove technical specifications. Thus, five sampling frames were considered for $\eta_{\text{new},y}$, one for each stove model.

For the parameters SOF, f_{old} and μ_{old} additional homogeneity conditions including the country, fuel type, end user type and stove type apply.

The target population, (the stoves that were distributed and recorded for CPA's under verification) has been divided into two sampling frames i.e.

- All stoves in Country 'Kenya' with fuel type 'Charcoal' having end user type 'Domestic' and stove efficiencies within +/- 10% of each other
- All stoves in Country 'Kenya' with fuel type 'wood' having end user type 'Domestic' and stove efficiencies within +/- 10% of each other

v. Sampling Method

The CME divided the target population into sampling frames as stated above. Simple Random Sampling approach was applied by CME, separately for each sampling frame which is considered to be appropriate to monitor the four parameters i.e. stove operation (SOF), fraction of traditional stoves still in operation (f_{old}) Efficiency of the system being deployed as part of the project activity ($\eta_{\text{new},y}$) and amount of woody biomass that continues to be used by the replaced stoves (μ_{old}).

vi. Sampling Size

For the estimation of the proportion or mean value of the parameters investigated, the minimum sample size for each sampling frame has to achieve the 95/10 confidence/precision for cross-CPA, annual sampling. In order to calculate the sample sizes, values for the proportions, mean values, and standard deviations are required. The required sample sizes were derived using equation (1) on page 68 and equation (4) on page 70 of the Guideline: Sampling and surveys for CDM project activities and programmes of activities, Version 04.0 for proportion based and mean based parameters respectively. A complete traceability with proper linkage could be assessed in the ER calculator worksheet under tab "Sample Size Calculations" which is based on CME's knowledge and experience as per the requirements of para 13 (b) & (c) of the standard "Sampling and surveys for CDM project activities and programme of activities." version 08.

Parameter: SOF

Frame	Total population(N)	Reliability	Sample Size (n) required	Samples covered during monitoring
SOF _{Charcoal} (CH5300, CH5200 and Econochar)	25475	95/10	43	87
SOF _{Woodfuel} (Econofire and M5000)	2970	95/10	21	43

Parameter: f_{old}

Frame	Total Population(N)	Reliability	Sample Size (n) required	Samples covered during monitoring
f_{old} Charcoal (CH5300, CH5200 and Econochar)	22928	95/10	43	84
f_{old} woodfuel (Econofire/M5000)	2822	95/10	21	42

Parameter: μ_{old}

Frame	Total Population(N)	Reliability	Sample Size (n) required	Samples covered during monitoring
μ_{old} Charcoal (CH5300, CH5200 and Econochar)	2293	95/10	7	14
μ_{old} woodfuel (Econofire and M5000)	141	95/10	7	7

Parameter: $\eta_{new,y}$

Frame	Total Population(N)	Reliability	Sample Size (n) required	Samples covered during monitoring
$\eta_{new,y}$ CH5200	884	95/10	7	10
$\eta_{new,y}$ CH5300	7203	95/10	7	10
$\eta_{new,y}$ Econochar	17388	95/10	7	10
$\eta_{new,y}$ M5000	1955	95/10	7	10
$\eta_{new,y}$ Econofire	1015	95/10	7	9

The parameter $\eta_{new,y}$, μ_{old} are mean value parameters, therefore the sample size has been calculated according to the following equations:

$$n \geq \frac{z^2 * N * V}{(N-1) * precision^2 + z^2 * V}$$

Where:

$$V = \left(\frac{SD}{mean} \right)^2$$

The parameter SOF, f_{old} are proportional values, therefore the sample size has been calculated according to the following equations:

$$n \geq \frac{z^2 * N * V}{(N-1) * precision^2 + z^2 * V}$$

Where:

$$V = \frac{p * (1-p)}{p^2}$$

Based on the registered monitoring plan, 95/10 reliability level is selected for PoA specific sampling for all the parameters listed above at monitoring frequency prescribed in PoA-DD. Sample size calculation is assessed to be in accordance with registered sampling plan in PoA-DD/CPA-DD and the guideline "Sampling and surveys for CDM project activities and programme of activities ", version 04.0 for sampling.

Every individual project stove in the CPAs covered under this MR (observed to be uniquely identifiable by its ID number) was allocated a sample serial number. Random numbers were found to be appropriately generated using online random number generator and the random numbers obtained were used to identify the samples from the population corresponding to the same sample serial number.

CME/PP has submitted sample size calculation spreadsheet and random number generator where it was demonstrated that samples are drawn randomly using simple random sampling technique. DOE further has crosschecked the sampling approach by CME as per MR section E.3 against related PoA- and CPA-DD.

Besides the related population size have been checked with corresponding supporting documents. Input parameter for the sampling calculation have been checked whether consistent with the stated approach and against PoA-DD, CPA-DD and sampling guidance. Further, verification team (VT) has recalculated and confirmed the required confidence/precision to be met for parameters SOF, μ_{old} , and $\eta_{new,y}$. For parameter f_{old} the required confidence/precision was not found to be met and CME

has correctly applied a lower bound value in accordance with §22 of the applied methodology AMS-II.G. version 3.0 and §10 of the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities” version 8.0.

D.4.2 Sampling approaches during verification

<input type="checkbox"/>	No sampling approach has been used by the VT to verify the monitored parameters
<input checked="" type="checkbox"/>	A sampling approach has been applied by the VT for the following monitored parameter(s):

Parameter	Sampling approach ¹⁾	Sampling Type ²⁾	Population	Sample Size
SOF, fold, fold	SiRS	AS	130 (87+43) (Charcoal/ Wood)	22 (11 for charcoal, 11 for wood)
η _{new,y}	SiRS	AS	49 (10 – CH5200, 10 - CH5300, 10 - Econochar, 10 – M5000, 9 - Econofire)	21 (10 for charcoal, 11 for wood)

¹⁾Sampling Approaches:

SiRS: Simple Random Sampling
 StRS: Stratified Random Sampling
 SS: Systematic Sampling
 CS: Cluster Sampling
 MSS: Multi-stage Sampling

²⁾Sampling Types:

AS: Acceptance Sampling
 PS: Parameter Sampling
 COM: Full data check at higher data aggregation levels and sampling at original data levels

The sampling conducted is in accordance with “Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities” version 04.0 and the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities version 08.0”.

Since the CPA included in the PoA implements technologies/measures with high degree of standardization and the stove capacities in terms of energy savings per year in the CPAs are smaller than 1% of small scale CDM thresholds, the verification team decided to draw samples mainly from the project samples selected by PP. i.e. the acceptance sampling approach has been applied.

The verification team followed the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities” version 08, para 29 to 32 and 39, esp. for taking sample out of the CME's sample. Verification team has adopted the acceptance sampling approach (AS) in accordance with § 29, 30, 31 to 32 and 39 of the Sampling Standard. The verification Team checked provisions of the para 39 of the applied standard to apply the producer risk and consumer risk following the provision of para 39 as assessed below:

Statement of para 39: A DOE may select a different sample size than the one indicated in paragraph 32 above, either by choosing a different value for the consumer risk and producer risk (e.g. 20 per cent for the consumer risk) when applying acceptance sampling or by using another approach, if any of the following conditions apply:)		
Sr. No.	Requirement of para	DOE Assessment
a)	The estimated volume of annual GHG emission reductions of the project activity or the PoA being verified is equal to or less than 100,000 t CO ₂ eq.;	Not Applicable. The verified emission reductions amount to 56,746 tCO ₂ .

b)	The security conditions in the project region prevents inspection of many samples (e.g. conflict zones); or	The COVID-19 was declared pandemic WHO which has created a health situation which was tangible and globally apparent. Thus, the DOE has availed the sampling size accordingly.
c)	The project activity or the PoA is located in a least developed country or a host Party with 10 or fewer registered CDM project activities at the end of the monitoring period being verified	The CPA under PoA is not located in the LDC i.e. Host Country Kenya as per https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/lcd-country-information

During the Remote Assessment verification, a sampling approach has been used to verify the reported values of the monitored parameters on sampling basis.

The sampling approach conducted is in accordance with “Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities” and the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities”. Verification team adopted simple random sampling method with acceptance sampling approach to verify the sampling parameters.

Since the CPA included in the PoA implements technologies/measures with high degree of standardization and the stove capacities in terms of energy savings per year in the CPAs are smaller than 1% of small scale CDM thresholds, the verification team decided to draw samples mainly from the project samples selected by CME. i.e. the acceptance sampling approach has been applied.

The verification team followed the “Standard for Sampling and Surveys for CDM Project Activities and Programme Activities” version 08, where §29, §30, §31, §37 and §39, have been followed esp. for taking a sample out of the CME’s sample. Verification Team has adopted the acceptance sampling by considering Acceptable quality level (AQL) 0.5% and Unacceptable quality level (UQL) 20%. Producer risk of 10% and consumer risk of 10% have been applied to determine the number of samples to be verified on ground from CME’s samples. Applying the aforesaid, the total number of samples required to be verified are 11 with acceptance No zero (0), however, Verification Team visited total 22 users (including 21 WBT samples) covering 11 charcoal and 11 woodstoves samples, selected randomly from the CME monitored data. Please refer the DOE sampling list in section D.3 of this report.

Table 7: Summary of sample size and acceptance number determination

AQL	0.5%
UQL	20%
Producer risk	10%
Consumer risk	10%
Sample size	11
Acceptance Number	0

Samples were randomly selected (from CME’s samples) by verification team using random excel function. Also, the verification team assessed samples over minimum size for proportion and mean parameter (22 total samples covering all 04 parameters under monitoring by sampling).

No CME sampling monitoring records/data results were found discrepant during the DOE verification site-visit.

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	0	0	0
Remaining forward action requests from validation and/or previous verifications	0	0	0
CPAs considered for verification and covered in this report	0	0	0
Programme of activities	-	-	-
Compliance of the programme implementation with the registered PoA-DD	0	0	0

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Implementation and operation of the management system	0	0	0
Post-registration changes	-	-	-
• Corrections	0	0	0
• Inclusion of a monitoring plan	0	0	0
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents ³	0	0	0
• Changes to the programme design	0	0	0
• Addition of CPA inclusion template	0	0	0
• Change of coordinating/managing entity			
• Changes specific to afforestation and reforestation activities	0	0	0
Component project activities	-	-	-
Compliance of the CPA implementation with the included CPA design document	0	0	0
Post-registration changes	-	-	-
• Temporary deviations from registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	0	0	0
• Corrections	0	0	0
• Changes to the start date-of the crediting period	0	0	0
• Inclusion of a monitoring plan	0	0	0
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	0	0	0
• Changes to the project design	0	0	0
• Changes specific to afforestation and reforestation activities	0	0	0
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	0	0	0
Compliance of monitoring activities with the registered monitoring plan	-	-	-
• Data and parameters fixed ex ante or at renewal of crediting period	1	1	0
• Data and parameters monitored	0	1	0
• Implementation of sampling plan	0	1	0
Compliance with the calibration frequency requirements for measuring instruments	0	0	0
Assessment of data and calculation of emission reductions or net removals	-	-	-
• Calculation of baseline GHG emissions or baseline net GHG removals by sinks	0	0	0
• Calculation of project GHG emissions or actual net GHG removals by sinks	0	0	0
• Calculation of leakage GHG emissions	0	0	0
• Summary of calculation of GHG emission reductions or net GHG removals by sinks	0	0	0
• Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA	0	0	0
• Remarks on difference from estimated value in included CPA	0	0	0
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	0	0	0
Others (Document Request)	0	1	0
Total	1	4	0

³Other 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).

SECTION E. Verification findings**E.1. General****E.1.1. Compliance of the monitoring report with the monitoring report form**

Means of verification	<p>An initial monitoring report was submitted to the verification team by the CME. The DOE has made this report publicly available prior to the start of the verification activities. No comments were received.</p> <p>By means of the UNFCCC website it has been checked whether the latest applicable MR template CDM-PoA-MR-FORM/^{MRT} has been used.</p> <p>Further it has been checked whether the latest instructions for filling out the MR template have been followed. Every section has been checked against the respective MR form filling guidelines.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /MRT/ • /unfccc/ 	
Findings	<input checked="" type="checkbox"/>	The latest reporting template CDM-PoA-MR-FORM as listed on the UNFCCC website has been used for the Monitoring Report to be uploaded.
	<input checked="" type="checkbox"/>	The latest instructions for filling out the MR have been followed. No adverse finding has been identified in the course of this verification.
	<input type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		-
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	During the verification, a Remote assessment using video/ skype were utilized to verify onsite information, considering travel restrictions due to COVID-19 Pandemic. On the basis of observations made during remote assessment and the project documentation reviewed, it can be confirmed that the project has been implemented as described in the registered CPA-DDs and the latest instructions for filling out the MR have been adequately followed.	

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

During the validation, the validating DOE might have raised issues that could not be closed or resolved during the validation stage. For this purpose, FARs might have been raised. Likewise, FARs might have been raised in the course of previous verifications.

In the course of this verification, the CPA inclusion reports pertaining to the CPAs covered under the scope of verification as well as the latest version of the last issued PoA MR/^{MR} and the PoA Verification report/^{VER}, have been checked in order to identify any remaining forward action requests. For the current monitoring period the following applies:

(i) Open issues from validation:

<input type="checkbox"/>	There were no open issues which have been addressed in the latest version of the validation report.
<input checked="" type="checkbox"/>	All open issues from the validation have been appropriately addressed in the context of previous verifications.
<input type="checkbox"/>	All issues related to the validation have been appropriately addressed in the course of the current monitoring period (for details please refer to appendix 4)
<input type="checkbox"/>	The following issues related to the validation have not yet been appropriately addressed (for details please refer to appendix 4):

(ii) Open issues from previous verifications:

<input type="checkbox"/>	N/A – as this is the first monitoring period for this CDM project activity.
<input checked="" type="checkbox"/>	There were no open issues which have been addressed in the previous verification report
<input type="checkbox"/>	All issues related to the previous verification have been appropriately addressed in the course of the current monitoring period (for details please refer to appendix 4)
<input type="checkbox"/>	The following issues related to the previous verification have not yet been appropriately addressed (for details please refer to appendix 4):

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
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00001 (Kenya) Version: 3.2 5341-P1-0001-CP1	No	06/12/2012	3.2	No
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00002 (Kenya) Version: 2.0 5341-P1-0002-CP1	No	29/10/2013	3.2	No
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00003 (Kenya) Version: 2.1 5341-P1-0003-CP1	No	06/11/2013	3.2	No
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00004 (Kenya) Version: 1.0 5341-P1-0004-CP1	No	24/03/2014	3.2	No
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00005 (Kenya) Version: 3.0 5341-P1-0005-CP1	No	06/11/2017	3.2	No
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00006 (Kenya) Version: 3.0 5341-P1-0006-CP1	No	06/11/2017	3.2	No
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00007 (Kenya) Version: 3.0 5341-P1-0007-CP1	No	06/11/2017	3.2	No
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00008 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0008-CP1	Yes	22/03/2019	3.2	Yes

Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00009 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0009-CP1	Yes	22/03/2019	3.2	Yes
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00010 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0010-CP1	Yes	22/03/2019	3.2	Yes

E.2. Programme of activities

E.2.1. Compliance of the programme implementation with the registered programme design document

Means of verification	<p>By means of an in-depth review of the latest PoA-DD – as downloaded from the UNFCCC project site - and the checks carried out during the remote assessment, it has been assessed if the project has been implemented and operated in line with the latest approved version of the PoA-DD / CPA-DD and whether all physical features of the project are in place. The following has been checked against the PoA-DD and corresponding CPA-DDs and found appropriate:</p> <ul style="list-style-type: none"> • implemented technology i.e. project stoves with different fuel inputs (improved woodstove and improved charcoal stoves), • implemented monitoring plan in line with approved monitoring plan in the PoA-DD and corresponding CPA-DDs. • Exchange or modification of the relevant technical equipment of the project activity, if any. • consistent notations of key equipment (product IDs etc.) in PoA-DD, MR and calculation spreadsheet. <p>Interviews with, CME, CPA implementer and operational personnel have been carried out. QMS records, maintenance records, instruments were also checked in this context.</p> <p>Special focus has further been laid to determine whether a potential phase wise implementation has occurred within the crediting period or any delays with respect to the starting dates have occurred.</p> <p>Further it has been checked whether any observed deviations from the registered project design have been correctly addressed as PRC (not applicable to this verification as there are no PRCs).</p> <p>The Verification Team checked and confirms that all the deployed systems meet the eligibility requirements of the PoA DD^{/PoA-DD/, /CPA-DD/}. The technical specifications of the products (refer section A of this FVR) along with the interview with the end users (refer section C of this FVR) allowed the VT to confirm that all inclusion eligibility conditions were met.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PoA-DD/ • /CPA-DD/ • /MR/ • /VVS/ • /XLS/ • /QMS/ • /unfccc/ 				
Findings	<table border="1"> <tr> <td data-bbox="451 1888 539 1977"><input checked="" type="checkbox"/></td><td data-bbox="539 1888 1439 1977">The project has been implemented as described in the latest version of the PoA-DD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.</td></tr> <tr> <td data-bbox="451 1977 539 2069"><input type="checkbox"/></td><td data-bbox="539 1977 1439 2069">The following deviations from the registered / approved project design and or the project description in the MR have been identified in the course of this verification (for further details please refer to section E.4):</td></tr> </table>	<input checked="" type="checkbox"/>	The project has been implemented as described in the latest version of the PoA-DD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.	<input type="checkbox"/>	The following deviations from the registered / approved project design and or the project description in the MR have been identified in the course of this verification (for further details please refer to section E.4):
<input checked="" type="checkbox"/>	The project has been implemented as described in the latest version of the PoA-DD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.				
<input type="checkbox"/>	The following deviations from the registered / approved project design and or the project description in the MR have been identified in the course of this verification (for further details please refer to section E.4):				

	<input type="checkbox"/>	In this context the following CARs, CLs have been raised:
	<i>In case of phased implementation:</i>	
	<input checked="" type="checkbox"/>	N/A
	<input type="checkbox"/>	The phased implementation has correctly and in sufficient detail been described in the latest version of the PoA-DD.
	<input type="checkbox"/>	The description in section 3.1 of the MR differs in content or the level of detail from the latest version of the PoA-DD. However, the description in the MR is correct and reflects the situation during the site inspection.
	<input type="checkbox"/>	The project description in the PoA-DD/MR is not deemed sufficient. The detailed implementation timeline is as follows: N/A or add as appropriate
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.

E.2.2. Implementation and operation of the management system

Means of verification	<p>The verification team carried out remote audit assessment for all the CPAs included during this monitoring period, respectively CPA 5341-P1-0008-CP1, 5341-P1-0009-CP1 and 5341-P1-0010-CP1 and interviewed key personnel to assess the implementation of the management system. Interviewees also included the CME, stove manufacturer, and project developer.</p> <p>The coordinating and managing entity (CME) is Envirofit International Ltd. and CERPD Co., Ltd. is the CPA implementer. CERPD has fully sponsored the ICS to beneficiary households in the CPAs, as well covered the cost of operation and management of the CPAs. Their roles and responsibilities are defined in the signed agreement.</p> <p>CPA implementers maintain the CPA distribution records at the time of distribution to note the details of the end user, ICS model, the serial number of the ICS installed, and the kind of stove replaced. All the information is transferred to ICS distribution database by the CME which was checked during the remote assessment to confirm that the management system is in place. The ICS database was cross-checked against sample CPA distribution records, to confirm that information for any system installed (unique ID) is consistent between the records. The unique IDs of the ICS were checked for all the sampled systems seen during remote visit to ensure there are no duplicates in the database and the same system is not included any other CPA either, thus avoiding the double counting.</p> <p>Further, based on the review of ICS end user database, physical observations and interview conducted during the site visit, the verification team found that:</p> <ul style="list-style-type: none"> • The CPA(s) have been implemented within the boundary of the PoA as described in the registered PoA-DD. • The CME is same as that mentioned in the registered PoA-DD • The implementation and operation of the project activity has been conducted in accordance with the description contained in the PoA-DD and included CPA-DDs. • All physical features of the CPA proposed in the included CPA-DDs were in place • The CPA implementer has operated the CPAs as per the included CPA DDs. <p>It was established that the programme management system has been implemented and operated as described.</p>
Findings	N/A

Conclusion	Based on desk review and Remote Assessments; DOE has found that the management system is in place, appropriate and effective. Thus, the management system is implemented and operated as per the registered PoA-DD & CPA-DDs.
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E.2.3. Post-registration changes

E.2.3.1. Corrections

It has been checked whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	During this verification of the current MP no need for corrections has been identified.
<input type="checkbox"/>	The following corrections have been applied:
<input type="checkbox"/>	A related post registration change has been submitted prior to the issuance request.
<input type="checkbox"/>	No related post registration change is submitted along with this issuance request. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.

E.2.3.2. Inclusion of a monitoring plan

<input checked="" type="checkbox"/>	N/A - as this monitoring plan was part of the registered PoA-DD /CPA-DD
<input type="checkbox"/>	In line with PS § 281 or § 282 the PP has forwarded a monitoring plan to the DOE for validation. No prior approval of the monitoring plan was required as the PP in line with PS § 282 wished to submit the monitoring plan together with the request for issuance for the first monitoring period. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.
<input type="checkbox"/>	In line with § 282 the PP submitted a monitoring plan prior to the submission of the request for issuance for validation to the DOE. A DOE has assessed the monitoring plan in line with related VVS requirements and submitted a related PRC report for prior approval. The approval has been received on DD/MM/YYYY via approval number

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

It has been checked whether any permanent changes from the registered monitoring plan (PCfrMP) or applied methodologies (PCfMM) including standardized baselines (PCfSB) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No PCfrMP, PCfMM or PCfSB have been submitted to the UNFCCC prior to the current monitoring period		
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Approval	
		Ref. No.	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP, PCfMM or PCfSB has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following PCfrMP, PCfMM or PCfSB is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.		

	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following PCrMP, PCrMM or PCrSB for which appendix 1 of the PS is applicable have been applied:		
	1	Issue:	

E.2.3.4. Changes to the programme design

It has been checked whether any changes to the project design (CoPD) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period		
<input type="checkbox"/>	The following CoPD have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
		Ref. No.	
	2	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
Ref. No.			
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following CoPD is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following CoPD for which appendix 1 of the PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

E.2.3.5. Addition of CPA inclusion template

N/A

E.2.3.6. Change of coordination/managing entity

The CME is Envirofit International Ltd. There are no changes of the CME.

E.2.3.7. Changes specific to afforestation and reforestation activities

<input checked="" type="checkbox"/>	N/A - as this monitoring plan was part of the registered CPA-DD
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E.3. Component project activities

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

Means of verification	<p>By means of an in-depth review of the latest CPA-DD – as downloaded from the UNFCCC project site - and the checks carried out during the remote assessment, it has been assessed if the project has been implemented and operated in line with the latest approved version of the CPA-DDs and whether all physical features of the project are in place. The following has been checked against the PoA-DD and corresponding CPA-DDs and found appropriate:</p> <ul style="list-style-type: none"> • implemented technology i.e. project stoves with different fuel inputs (improved woodstove and improved charcoal stoves), • project monitoring and implemented monitoring plan in line with approved monitoring plan in the PoA-DD and corresponding CPA-DDs. • Exchange or modification of the relevant technical equipment of the project activity, if any. • consistent notations of key equipment (product IDs etc.) in PoA-DD, MR and calculation spreadsheet. <p>Interviews with CME, CPA implementer and operational personnel have been carried out. QMS records, maintenance records, instrument specifications were also checked in this context.</p> <p>Special focus has further been laid to determine whether a potential phase wise implementation has occurred within the crediting period or any delays with respect to the starting dates have occurred.</p> <p>All monitoring parameters are assessed to be monitored as per the registered monitoring plan included in the CPA-DD and registered PoA-DD.</p> <p>Further it has been checked whether any observed deviations from the registered project design have been correctly addressed as PRCs (not applicable to this verification as there are no PRCs).</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /CPA-DD/ • /MR/ • /VVS/ • /XLS/ • /unfccc/
Findings	-
Conclusion	<p>The verification team confirms that the CPAs under this MP are implemented and operated in line with latest approved versions of CPA-DDs and all physical feature of the project are in place. However, during course of verification findings were raised and closed successfully. Please refer Appendix-4 of this report.</p>

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

It has been checked whether Temporary deviations from the registered monitoring plan (TDfrMP) or Temporary deviations from monitoring methodology or standardized baseline (TDfMM) have been applied during this monitoring period. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No Temporary deviations from the registered monitoring plan (TDfrMP) or Temporary deviations from monitoring methodology or standardized baseline (TDfMM) have been submitted to the UNFCCC prior to the current monitoring period.		
<input type="checkbox"/>	The following TDfrMP or TDfMM have been approved or are under approval by the UNFCCC		
1	Title		

	Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved (approval No.:)	
	Appr.date		
	Ref. No.		
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following TDfrMP or TDfMM is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following TDfrMP or TDfMM for which appendix 1 of the PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

E.3.2.2. Corrections

It has been checked whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	During the verification of the current MP no need for corrections has been identified.		
<input type="checkbox"/>	The following corrections have been applied:		
	1	Issue:	
	2	Issue:	
	<input type="checkbox"/> A related post registration change has been submitted prior to the issuance request. <input type="checkbox"/> A related post registration change is submitted along with this issuance request. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.		

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

Not Applicable

E.3.2.4. Inclusion of a monitoring plan

<input checked="" type="checkbox"/>	N/A - as this monitoring plan was part of the included CPA-DD
<input type="checkbox"/>	In line with PS § 281 or § 282 the PP has forwarded a monitoring plan to the DOE for validation. No prior approval of the monitoring plan was required as the PP in line with PS § 282 wished to submit the monitoring plan together with the request for issuance for the first monitoring period. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.
<input type="checkbox"/>	In line with § 282 the PP submitted a monitoring plan prior to the submission of the request for issuance for validation to the DOE. A DOE has assessed the monitoring plan in line with related VVS requirements and submitted a related PRC report for prior approval. The approval has been received on DD/MM/YYYY via approval number PRC-XXXX-00Z.

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

It has been checked whether any permanent changes from the registered monitoring plan (PCfMP) or applied methodologies (PCfMM) including standardized baselines (PCfSB) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No PCfMP, PCfMM or PCfSB have been submitted to the UNFCCC prior to the current monitoring period		
<input type="checkbox"/>	The following PCfMP, PCfMM or PCfSB have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
		Ref. No.	
	2	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
Ref. No.			
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfMP, PCfMM or PCfSB has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following PCfMP, PCfMM or PCfSB is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following PCfMP, PCfMM or PCfSB for which appendix 1 of the PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

E.3.2.6. Changes to the project design

It has been checked whether any changes to the project design (CoPD) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period		
<input type="checkbox"/>	The following CoPD have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
		Ref. No.	
	2	Title	
Status		<input type="checkbox"/> under approval; <input type="checkbox"/> approved	

	Appr.date	
	Ref.No.	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA	
<input type="checkbox"/>	An approval of the following CoPD is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.	
	1	Issue:
	2	Issue:
<input type="checkbox"/>	The following CoPD for which appendix 1 of the PS is applicable have been applied:	
	1	Issue:
	2	Issue:

E.3.2.7. Changes specific to afforestation and reforestation activities

<input checked="" type="checkbox"/>	N/A - as this registered PoA is not an afforestation and reforestation activity
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E.3.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	By means of comparison of the MR with (i) the applied CDM methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline the verification team has checked whether the MP is in compliance with the MP related requirements of the applied methodology/tools/SB. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /MR/ • /AMSII G/ • /unfccc/ 			
Findings	<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the CDM PoA project (last registered/approved version of the PoA-DD)		
	<input checked="" type="checkbox"/>	The breakdown of MP accordance of the referenced guidelines is as follows:		
		1	Title (of the guideline)	Guidelines for Sampling and Survey for CDM Project activities and Programme of activity, version 04
		MP compliance		<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)
		2	Title (of the tool)	-
		Version		
		MP compliance		<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A
	<input type="checkbox"/>	The breakdown of MP accordance of the applicable SB is as follows:		
		1	Title (of the SB)	-
		Version		
MP compliance				

	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
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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	<p>By means of comparison of the MR and the ER calculation with the latest version of the registered PoA-DD, the verification team has checked whether all parameters fixed ex-ante or at renewal of the crediting period have been applied correctly.</p> <p>Parameters which are fixed ex-ante are listed as below have been found to be adequately provided in the section E.1 of the MR. Corresponding values in the ER sheet are also verified to be correct.</p> <ol style="list-style-type: none"> 1. η_{old} 2. $NCV_{biomass}$ 3. $EF_{projected_fossilfuel}$ 4. LAF 5. $Q_{biomass}$ 6. $f_{NRB,y}$ <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /XLS/ • /PoA-DD/ • /CPA-DD/ • /PS/ • /VVS/ • /unfccc/ • /METH/ • /AMS-II.G./ 	
Findings	<input checked="" type="checkbox"/>	The MR and the ER calculation have considered the parameters fixed ex-ante or at the renewal of the crediting period correctly, no deviations have been observed.
	<input type="checkbox"/>	The following deviations from the parameters fixed ex-ante or at renewal of crediting period have been identified in the course of this verification: - N/A
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: - For details please refer to appendix 4
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out.
	The fixed ex-ante parameters corresponding with the provisions of CPA-DD are appropriately included in section E.1 of the monitoring report and applied for the ER calculation.	

E.3.4.2. Data and parameters monitored

Means of verification	During the verification all relevant monitoring parameters (as listed in the PoA-DD) have been verified with regard to the
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	<p>(i) appropriateness of the applied measurement / determination method,</p> <p>(ii) the correctness of the values applied for ER calculation,</p> <p>(iii) the accuracy, and applied QA/QC measures.</p> <p>The results as well as the verification procedure are described parameter-wise in the project specific verification checklist (Appendix 5).</p>
Findings	CAR 01 and CAR 03 are raised
Conclusion	<p><input type="checkbox"/> No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.</p> <p><input checked="" type="checkbox"/> The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p> <p>During the verification all relevant monitoring parameters (as listed in chapter B.5.1 of the registered CPA-DDs) have been assessed with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy/precision achieved, and applied QA/QC measures. The results as well as the verification procedure are described parameter-wise in the project specific verification checklist (Appendix 5).</p> <p>A finding was raised with respect to the survey, the same has been adequately resolved. After appropriate corrections were carried out by the project participant, it is confirmed that all monitoring parameters have been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.</p>

E.3.4.3. Implementation of sampling plan

Means of verification	<p>The verification team checked whether the PP applied a sampling approach to determine the monitored values. Further it has been checked whether the PP correctly applied the implemented sampling plan including</p> <p>(i) description of the implemented sampling design</p> <p>(ii) collected data</p> <p>(iii) analysis of collected data</p> <p>(iv) demonstration on whether the required confidence/precision has been met.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /RC/ • /XLS/ • /WBT/ • /PoA-DD/ • /CPA-DD/ 																									
Findings	<p><input type="checkbox"/> The PPs have not applied sampling approaches for the parameters monitored.</p> <p><input checked="" type="checkbox"/> The PPs have applied sampling approaches for the following parameters monitored.</p> <table border="1"> <thead> <tr> <th colspan="5">Parameter SOF</th> </tr> </thead> <tbody> <tr> <td>Name:</td><td colspan="4">Stove Operation Fraction – used to determine the share of distributed stoves that are still operating, measured ex-post through sampling</td> </tr> <tr> <td>Description on how the sampling efforts and survey comply with the validated sampling plan:</td><td colspan="4">A sample size was calculated based on estimated proportion values based on project developer's knowledge and experience in line with para 13(b) and 13(c) of the Sampling and surveys for CDM project activities and programmes of activities as follows:</td> </tr> <tr> <td></td><td>Strata</td><td>Total population (N)⁴</td><td>Reliability</td><td>Sample Size (n) required</td> </tr> <tr> <td></td><td></td><td></td><td></td><td>Samples covered</td> </tr> </tbody> </table>	Parameter SOF					Name:	Stove Operation Fraction – used to determine the share of distributed stoves that are still operating, measured ex-post through sampling				Description on how the sampling efforts and survey comply with the validated sampling plan:	A sample size was calculated based on estimated proportion values based on project developer's knowledge and experience in line with para 13(b) and 13(c) of the Sampling and surveys for CDM project activities and programmes of activities as follows:					Strata	Total population (N) ⁴	Reliability	Sample Size (n) required					Samples covered
Parameter SOF																										
Name:	Stove Operation Fraction – used to determine the share of distributed stoves that are still operating, measured ex-post through sampling																									
Description on how the sampling efforts and survey comply with the validated sampling plan:	A sample size was calculated based on estimated proportion values based on project developer's knowledge and experience in line with para 13(b) and 13(c) of the Sampling and surveys for CDM project activities and programmes of activities as follows:																									
	Strata	Total population (N) ⁴	Reliability	Sample Size (n) required																						
				Samples covered																						

⁴These are rounded figures of total strata population for calculating sample size only.

SOF ^{Charcoal} (CH5300, CH5200 and Econochar)	25475	95/10	43	87
SOF ^{Woodfuel} (Econofire/M5000)	2970	95/10	21	43

The sample size has been calculated according to the following equations:

$$n \geq \frac{z^2 * N * V}{(N-1) * precision^2 + z^2 * V}$$

Where:

$$V = \frac{p * (1-p)}{p^2}$$

Procedures for sampling have been duly articulated in the field monitoring excel report and spreadsheet, and a sample of survey questionnaires has been furnished to verification team

A total of 130 samples were surveyed for operation across all the models as illustrated above by CME. The parameter was assessed through household visits of randomly selected samples (random samples) of households. The households selected were visited by staff/third party appointed by the CPA Implementer. During visit, the existence and functionality of the appliance was confirmed through a visual assessment of the appliance with the unique ID clearly visible.

All data is kept for 2 years following the crediting period or the last issuance of the CERs of the project activity.

The Verification Team also reviewed the survey forms where "Question 3 Usage Survey Data (Visual Inspection- Surveyor filled this based on one's own observation)" has provision for capturing this information.

Parameter f_{old}

Name: The fraction of end users that are still using baseline (replaced) stoves

Description on how the sampling efforts and survey comply with the validated sampling plan:

A sample size was calculated based on estimated proportion values based on project developer's knowledge and experience in line with para 13(b) and 13(c) of the Sampling and surveys for CDM project activities and programmes of activities as follows:

Strata	Total population (N) ⁷	Reliability	Sample Size (n) required	Samples covered
f _{old} Charcoal (CH5300, CH5200 and Econochar)	22928	95/10	43	84
f _{old} woodfuel (Econofire and M5000)	2822	95/10	21	42

The sample size has been calculated according to the following equations:

$$n \geq \frac{z^2 * N * V}{(N-1) * precision^2 + z^2 * V}$$

Where:

$$V = \frac{p * (1-p)}{p^2}$$

		<p>Where: 1.96 is the z value for the 95% confidence interval precision required as per PP application 95/10 N is the total population</p> <p>Procedures for sampling have been duly articulated in the field monitoring survey spreadsheet and corresponding survey forms containing survey questionnaires furnished to DOE for assessment.</p> <p>A total of 126 samples were surveyed for all the models as illustrated above. CME undertook annual sampling and surveying to determine whether the households are still continuing with the inefficient baseline stoves along with the improved cook stove. During monitoring visit, the existence and functionality of the baseline stove, if any was confirmed through a visual assessment and user interview.</p> <p>The Verification Team also reviewed the survey forms where "Question 5 Baseline Stove Usage Survey Data (User's Interview)" has provision for capturing this information.</p> <p>Monitoring surveys were conducted by trained personnel using simple random sampling following the standard and guideline for Sampling and surveys for CDM project activities and programme of activities version 08. As described above, it can be said that sampling was accurate.</p>															
	Parameter	μ_{old}															
	Name:	The amount of woody biomass consumption that is consumed through the continued use of old stoves															
	Description on how the sampling efforts and survey comply with the validated sampling plan:	<p>A sample size was calculated based on estimated proportion values based on project developer's knowledge and experience in line with para 13(b) and 13(c) of the Sampling and surveys for CDM project activities and programmes of activities as follows:</p> <table border="1" data-bbox="639 1220 1433 1507"> <thead> <tr> <th>Strata</th> <th>Total population (N)⁷</th> <th>Reliability</th> <th>Sample Size (n) required</th> <th>Samples covered</th> </tr> </thead> <tbody> <tr> <td>μ_{old} Charcoal (CH5300, CH5200 and Econochar)</td> <td>2293</td> <td>95/10</td> <td>7</td> <td>14</td> </tr> <tr> <td>μ_{old} woodfuel (Econofire and M5000)</td> <td>141</td> <td>95/10</td> <td>7</td> <td>7</td> </tr> </tbody> </table> <p>The sample size has been calculated according to the following equations:</p> $n \geq \frac{z^2 * N * V}{(N-1) * precision^2 + z^2 * V}$ <p>Where:</p> $V = \left(\frac{SD}{mean} \right)^2$ <p>Where: 1.96 is the z value for the 95% confidence interval precision required as per PP application 95/10 N is the total population</p> <p>Procedures for sampling have been duly articulated in the field monitoring survey spreadsheet and corresponding survey forms containing survey questionnaires furnished to DOE for assessment.</p>	Strata	Total population (N) ⁷	Reliability	Sample Size (n) required	Samples covered	μ_{old} Charcoal (CH5300, CH5200 and Econochar)	2293	95/10	7	14	μ_{old} woodfuel (Econofire and M5000)	141	95/10	7	7
Strata	Total population (N) ⁷	Reliability	Sample Size (n) required	Samples covered													
μ_{old} Charcoal (CH5300, CH5200 and Econochar)	2293	95/10	7	14													
μ_{old} woodfuel (Econofire and M5000)	141	95/10	7	7													

		<p>A total of 21 samples were surveyed as illustrated above. CME undertook annual sampling and surveying to determine whether the households are still continuing with the inefficient baseline stoves along with the improved cook stove. After this step the fuel wood consumption in baseline stoves is excluded from the ex-ante fixed B_{old} to arrive at emission reductions. The data is gathered at end user household end pertaining to relative usage of traditional stoves alongwith project stoves, during field surveys by a surveyor team.</p> <p>Monitoring surveys were conducted by trained third party personnel using simple random sampling following the standard and guideline for Sampling and surveys for CDM project activities and programme of activities version 08. As described above, it can be said that sampling was accurate.</p> <p>The observations made during remote assessment by interviewing these users were found to be consistent with the monitoring survey records. The Verification Team also reviewed the survey forms where "Question 5 Baseline Stove Usage Survey Data (User's Interview)" has provision for capturing this information.</p>																														
		<p>Parameter: $\eta_{new,y}$</p> <p>Name: Efficiency of the system being deployed as part of the project activity</p> <p>Description on how the sampling efforts and survey comply with the validated sampling plan: A sample size was calculated based on estimated proportion values based on project developer's knowledge and experience in line with para 13(b) and 13(c) of the Sampling and surveys for CDM project activities and programmes of activities as follows:</p> <table border="1" data-bbox="638 936 1436 1182"> <thead> <tr> <th>Strata</th> <th>Total population (N)</th> <th>Reliability</th> <th>Sample Size (n) required</th> <th>Samples covered</th> </tr> </thead> <tbody> <tr> <td>CH5200</td> <td>884</td> <td>95/10</td> <td>7</td> <td>10</td> </tr> <tr> <td>CH5300</td> <td>7203</td> <td>95/10</td> <td>7</td> <td>10</td> </tr> <tr> <td>Econochar</td> <td>17388</td> <td>95/10</td> <td>7</td> <td>10</td> </tr> <tr> <td>M5000</td> <td>1955</td> <td>95/10</td> <td>7</td> <td>10</td> </tr> <tr> <td>Econofire</td> <td>1015</td> <td>95/10</td> <td>7</td> <td>9</td> </tr> </tbody> </table> <p>The parameter $\eta_{new,y}$ is a mean value, therefore the sample size has been calculated according to the following equations:</p> $n \geq \frac{z^2 * N * V}{(N-1) * precision^2 + z^2 * V}$ <p>Where:</p> $V = \left(\frac{SD}{mean} \right)^2$ <p>Where: 1.96 is the z value for the 95% confidence interval precision required as per PP application 95/10 N is the total population</p> <p>The efficiency of stoves deployed was determined by conducting water boiling tests (WBT) for a representative random sample from each stove type. The CME has submitted Water Boiling Test Records Dated April - May 2020 ^{WBT/}. A total of 49 samples have been tested for the efficiency across all 5 models under the monitoring period and required confidence precision 95/10 were found to be met.</p> <p>The verification team has reviewed the step-by-step protocol followed in determining the sample size per model, selecting appropriate conditions and conducting the overall WBTs. The Team Lead of WBTs has been interviewed on procedures, calibration and training. The WBT reports have been analysed.</p>	Strata	Total population (N)	Reliability	Sample Size (n) required	Samples covered	CH5200	884	95/10	7	10	CH5300	7203	95/10	7	10	Econochar	17388	95/10	7	10	M5000	1955	95/10	7	10	Econofire	1015	95/10	7	9
Strata	Total population (N)	Reliability	Sample Size (n) required	Samples covered																												
CH5200	884	95/10	7	10																												
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Econochar	17388	95/10	7	10																												
M5000	1955	95/10	7	10																												
Econofire	1015	95/10	7	9																												

		The calculations of sample sizes and measurement procedures have followed the requirements in registered PoA-DD and CPA-DD, however during course of verification findings have been raised and closed successfully. For further detail, please refer under Appendix-4 of this report.
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: CAR 02 and CAR 04 are raised.
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		<p>Based on the assessment of survey and sampling records including WBT and their analysis sheets for the related parameters, it is concluded that all the parameters have been monitored correctly in accordance with registered monitoring plan and the applied methodology.</p> <p>The verification team concludes that all sampled parameters have been calculated correctly in line with the registered corresponding CPA-DDs and the sampling standard. For the parameters SOF, μ_{old}, and $\eta_{new,y}$, the achieved relative precision of 10% and 95% confidence level is demonstrated to be met. For parameter f_{old} the required confidence/precision was not found to be met and CME has correctly applied a lower bound value in accordance with §22 of the applied methodology AMS-II.G. version 3.0 and §10 of the "Standard for Sampling and Surveys for CDM Project Activities and Programme Activities" version 8.0.</p> <p>The involved personnel were reviewed pertaining to the training, data collection, transfer, data storage. The Monitoring Survey Questions were also assessed and it is determined that "Question 4: Usage Survey Data (User's Interview)" has provision to identify the possibility of use of another ICS already in operation. Thus, there are sufficient provisions to capture multi-ICS usage, if any. No sample was found using more than 1 project stove. Also, from the assessment of CPA distribution database, it can be concluded that there is only one project stove per user location.</p> <p>Based on above along with the Remote Assessment and interview and sample inspection of the project stoves installation in Kenya, the verification team concludes the approach and result deemed appropriate and acceptable.</p>

E.3.5. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	<p>During the verification, the relevant monitoring equipment has been checked whether the calibration requirements have been met; especially if the calibration frequency is in line with the requirements of the validated CPA-DD and/or the applicable calibration standards.</p> <p>The results as well as the verification procedure are described equipment-wise in the project specific verification checklist (Appendix 6).</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /XLS/ • /CAL/
Findings	<p><input checked="" type="checkbox"/> Calibration is under the purview of the CME, however, CME has provided the detail of the equipment in the report which were also checked during remote inspection by the verification team. Verification team could check that equipment involve in the test were newly purchased at the time of use and hence, the measurement done with the duly calibrated instrument^{WBT/} and found to be appropriate. Thus, the verification team can confirm that all installed monitoring equipment has been duly calibrated for this entire monitoring period.</p>

	<input type="checkbox"/>	Based on the assessment and information as per appendix 6 delay(s) in calibration have been identified. The PP has applied the maximum permissible error of the instrument to the measured values taken during the period between the scheduled date of calibration and the actual date of calibration. From the related calibration certificates and emission reduction calculation the verification team confirms that the maximum permissible error has been applied in a conservative manner so that the adjusted measured values due to the delayed calibration result in fewer claimed emission reductions. For details please refer to appendix 6
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: CAR 04
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		Though the applied methodology and the registered PoA monitoring plan do not make provision for calibration, it has been checked during remote assessment and via interview with Water Boiling testing team that the equipment used for WBT were duly calibrated (during the year test conducted). PP has submitted all calibration certificates for all the relevant tools and equipment ^{/CAL/} . These tools and equipment were assessed and found to be working properly and accurately.

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	<p>During the verification the calculation of baseline GHG emissions has been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> • <i>Transparency</i>: It has been checked whether the calculation of baseline emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae. • <i>Parameter consistency</i>: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet. • <i>Correctness</i>: It has been checked whether the applied formulae and methods for calculating baseline emissions are in accordance with the monitoring plan and the approved methodology. • <i>Completeness</i>: It has been checked whether all calculations are complete and without omissions. <p>Baseline emission is determined using the following equation in line with applied methodology:</p> $B_{old} = LAF \cdot N_{all} \cdot SOF \cdot (Q_{biomass} - \left(\frac{\mu_{old}}{1000} \cdot f_{old}\right)) \cdot Stove_{year}$ <p>Where:</p> <p>B_{old} Quantity of biomass used in the absence of the project activity in tonnes/year</p> <p>LAF Net to gross Adjustment factor for leakages</p> <p>N_{all} Total number of stoves installed</p> <p>$Q_{biomass}$ Average annual biomass consumption per appliance tonnes/ year</p> <p>SOF Stove Operation Fraction – used to determine the share of distributed stoves that are still operating, measured ex-post through sampling</p> <p>μ_{old} Amount of woody biomass consumption that is consumed through the continued use of old stoves</p> <p>$Stove_{year}$ Calculated average stove year in the monitoring period (years).</p> $B_{y,savings} = B_{old} \cdot \left(1 - \frac{\eta_{old}}{\eta_{new}}\right)$ <p>Where:</p> <p>$B_{y,savings}$ Quantity of woody biomass that is saved in tonnes</p>
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	<p>B_{old} Quantity of biomass used in the absence of the project activity in tonnes/year</p> <p>η_{old} Efficiency of the system being replaced</p> <p>η_{new} Efficiency of the system being deployed as part of the project activity (fraction)</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /PoA-DD/ • /CPA-DD/ • /XLS/ • /USAGE/ • /WBT/
Findings	<input checked="" type="checkbox"/> The calculation of the baseline emissions was found to be fully compliant with the above stated principles. The calculations of baseline GHG emissions or baseline net GHG removals have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors, IPCC default values other reference values have been correctly applied. No errors, miscalculations, omissions, misstatements or incomplete information has been identified.
	<input checked="" type="checkbox"/> The verification team has identified mistakes in the baseline emissions calculation or the underlying calculation approaches.
	<input checked="" type="checkbox"/> In this context the following CARs, CLs, FARs have been raised: CL 01, CAR 02 and CAR 04
Conclusion	<input type="checkbox"/> No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/> The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 5. Based on above and verification of all input values (fixed ex-ante), it can be concluded by verification team that, baseline GHG emissions calculation presented in the MR and corresponding ER sheet is appropriate.

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

Means of verification	<p>During the verification the calculation of project GHG emissions has been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> • <i>Transparency:</i> It has been checked whether the calculation of project emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae. • <i>Parameter consistency:</i> It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet. • <i>Correctness:</i> It has been checked whether the applied formulae and methods for calculating project emissions are in accordance with the monitoring plan and the approved methodology. • <i>Completeness:</i> It has been checked whether all calculations are complete and without omissions. <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /CPA-DD/ • /XLS/ • /AMS-II.G/
Findings	<input type="checkbox"/> The calculation of the project emissions was found to be fully compliant with the above stated principles.

		<p>The calculations of project GHG emissions or actual net GHG removals have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors, IPCC default values and other reference values have been correctly applied.</p> <p>No errors, miscalculations, omissions, misstatements or incomplete information have been identified.</p>
	<input type="checkbox"/>	The verification team has identified mistakes in the project emissions calculation or the underlying calculation approaches.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		Project emissions are not applicable by the applied methodology for the registered PoA

E.3.6.3. Calculation of leakage GHG emissions

Means of verification		<p>During the verification the calculation of leakage has been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> • <i>Transparency</i>: It has been checked whether the calculation of leakage is fully traceable and, where used, the Excel calculation provides all calculation formulae. • <i>Parameter consistency</i>: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet. • <i>Correctness</i>: It has been checked whether the applied formulae and methods for calculating project emissions are in accordance with the monitoring plan and the approved methodology. • <i>Completeness</i>: It has been checked whether all calculations are complete and without omissions. <p>Leakage is to be considered by the methodology for non-renewable woody biomass. This can be done either via survey or by applying a default factor of 0.95 to the parameter B_{old}. As per PoA-DD as well as generic and specific CPA-DD PP has applied the default factor to the parameter B_{old}.</p> <p>Besides, leakage is to be considered in case equipment is transferred from outside the boundary to the project activity.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /CPA-DD/ • /XLS/ • /AMS-II.G/
Findings	<input checked="" type="checkbox"/>	<p>The calculation of the leakage was found to be fully compliant with the above stated principles.</p> <p>The calculations of leakage GHG emissions or actual net GHG removals have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors, IPCC default values and other reference values have been correctly applied.</p> <p>No errors, miscalculations, omissions, misstatements or incomplete information have been identified.</p>
	<input type="checkbox"/>	The verification team has identified mistakes in the project emissions calculation or the underlying calculation approaches.

	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	<p>The CME has applied related leakage default factor correctly to the parameter B_{old}. Therefore, no further leakage emission result is separately indicated in monitoring report or this report.</p> <p>Besides, DOE could not identify that any equipment is transferred from outside the boundary to the project activity, based on interviews taken and users remotely visited as well as check of PoA set-up and organisation. Cookstoves are newly produced before distribution.</p>	

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

Means of verification	<p>The verification team has checked if the MR includes a summary table of the emission reductions calculation specifying separately.</p> <p>- Total baseline emissions, - Total project emissions, - Total leakage, - Total emission reductions.</p> <p>The MR demonstrate the summary of GHG emission reductions for the monitoring period and calculated according to the applied methodology AMS-II.G as follows:</p> $ER_y = (B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossil\ fuel})$ <p>Where:</p> <p>ER_y Emission reductions during the period y in tCO₂e $f_{NRB,y}$ Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass $NCV_{biomass}$ Net calorific value of the non-renewable woody biomass that is substituted $EF_{projected_fossil\ fuel}$ Emission factor for the substitution of non-renewable biomass by similar consumers. $B_{y,savings}$ Quantity of woody biomass that is saved in tonnes per appliance.</p> <table border="1"> <thead> <tr> <th>Value</th> <th>5341-P1-0008-CP1</th> <th>5341-P1-0009-CP1</th> <th>5341-P1-0010-CP1</th> </tr> </thead> <tbody> <tr> <td>$B_{y,savings}$</td> <td>21,499.9</td> <td>15,928.3</td> <td>12,965.7</td> </tr> <tr> <td>f_{NRB}</td> <td>0.92</td> <td>0.92</td> <td>0.92</td> </tr> <tr> <td>$NCV_{biomass}$</td> <td>0.015</td> <td>0.015</td> <td>0.015</td> </tr> <tr> <td>$EF_{projected_fossil\ fuel}$</td> <td>81.6</td> <td>81.6</td> <td>81.6</td> </tr> <tr> <td>ER_y</td> <td>24,210</td> <td>17,936</td> <td>14,600</td> </tr> </tbody> </table> <p>It has been assessed whether the values are correct or need to be revised as a consequence of issues identified during the desktop reviews and remote assessments. Findings have been raised and all monitored parameters have been duly verified.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /XLS/ • /CPA-DD/ • /PoA-DD/ • /AMSII G/ • /USAGE/ • /WBT/ 				Value	5341-P1-0008-CP1	5341-P1-0009-CP1	5341-P1-0010-CP1	$B_{y,savings}$	21,499.9	15,928.3	12,965.7	f_{NRB}	0.92	0.92	0.92	$NCV_{biomass}$	0.015	0.015	0.015	$EF_{projected_fossil\ fuel}$	81.6	81.6	81.6	ER_y	24,210	17,936	14,600
	Value	5341-P1-0008-CP1	5341-P1-0009-CP1	5341-P1-0010-CP1																								
	$B_{y,savings}$	21,499.9	15,928.3	12,965.7																								
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$EF_{projected_fossil\ fuel}$	81.6	81.6	81.6																									
ER_y	24,210	17,936	14,600																									
Findings	<input checked="" type="checkbox"/>	Section F.4 of the MR includes in a summary table of the emission reductions calculation.																										

	<input type="checkbox"/>	The summary table specified the total baseline, project and leakage emissions as well as the total emission reductions separately.
	<input type="checkbox"/>	The values as specified in the ER summary table are correct; no issues have been identified during the verification which requires changes in the ER calculation.
	<input checked="" type="checkbox"/>	During the verification issues with impact on the ER calculation have been identified. CAR 02, CAR 03 and CAR 04
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	Based on assessment of CPAs covered in this verification, monitoring report version 02, ER calculation spread sheet, sourced documents e.g. usage survey results, WBT results, technical sheet etc. along with remote site interview with concerned personnel including the end users, verification team concludes that the calculation of GHG emission reduction for the applied monitoring period is deemed appropriate and summarised correctly.	

Title and UNFCCC reference number of the CPA	BEy (tCO ₂ e)	PEy (tCO ₂ e)	Ly (tCO ₂ e)	GHG emission reductions or net GHG removals by sinks (tCO ₂ e)		
				before 1 January 2013	from 1 January 2013	during the entire MP
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00008 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0008-CP1	24,210	0	0	0	24,210	24,210
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00009 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0009-CP1	17,936	0	0	0	17,936	17,936
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00010 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0010-CP1	14,600	0	0	0	14,600	14,600
Total	56,746	0	0	0	56,746	56,746

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

Means of verification	The verification team has checked if the MR includes a comparison of actual values of the monitoring period with the estimations in the included CPA-DD. It has further checked which of the below listed cases is applicable for the calculated ER of the current monitoring period.	
Findings	<input checked="" type="checkbox"/>	Case 1: The ex-ante estimated value was found to be proportionally higher than the ex-post determined value. No further action is deemed required.
	<input type="checkbox"/>	Case 2: The ex-ante estimated value fits very good to the actually monitored value. No further justification is deemed required.
	<input type="checkbox"/>	Case 3: The ex-ante estimated value was found to be proportionally lower than the ex-post determined value.

	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	-	-

Title and UNFCCC reference number of the CPA	Actual values achieved by the CPAs during this monitoring period (tCO ₂)	Value estimated in ex ante calculation in the included CPA-DD(s) (tCO ₂) ⁵
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00008 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0008-CP1	24,210	32,655
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00009 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0009-CP1	17,936	32,655
Improved Cooking Stoves Programme of Activities in Africa – CPA No. 00010 (Kenya) supported by Republic of Korea Version: 4.0 5341-P1-0010-CP1	14,600	32,655
Total	56,746	97,965

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

Means of verification	On the basis of the above comparison of actual values of the monitoring period with the estimations in the registered PoA-DD (E.8.5) and section F.5 of the MR, the verification team has checked whether (in case 3) an appropriate explanation is included in the MR.	
Findings	<input checked="" type="checkbox"/>	No further justification or explanation is deemed required as actual emissions of this MP do not exceed significantly the ex-ante calculated emission reductions (applicable for case 1 and 2).
	<input type="checkbox"/>	For case 3: The PP has provided a related justification in the MR. The reasons for the increase are as follows: - N/A
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	-	-

⁵ The calculation is done on pro-rata basis, as per ER calculation spreadsheet submitted by CME. The estimated ER for unit CPA is calculated as pro-rata ER for 2019 and 2020 = $34,705 \times 184 / 292 + 43,382 \times 91 / 366 = 32,655$ tCO₂ for each CPA

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

Means of verification	<input checked="" type="checkbox"/>	N/A – as the PP has not monitored the sustainable development co-benefits of the registered CDM project activity or not requested the DOE to verify them.
	<input type="checkbox"/>	<p>The project participants have monitored the sustainable development co-benefits of the registered CDM project activity and requested the DOE to verify them.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /PoA-DD/ • /CPA-DD/ • /unfccc/.
Findings	<input checked="" type="checkbox"/>	N/A – as the PP has not monitored the sustainable development co-benefits of the registered CDM project activity or not requested the DOE to verify them.
	<input type="checkbox"/>	<p>Therefore, the DOE has assessed and confirms that:</p> <p>(a) The monitoring has been carried out in accordance with the document for monitoring sustainable development co-benefits, if such document was developed and published on the UNFCCC CDM website in accordance with the “CDM project standard for project activities”;</p> <p>(b) The reported monitoring results correspond to the sustainable development co-benefits of the project activity as observed by the DOE.</p>
	<input type="checkbox"/>	<p>In this context the following CARs, CLs, FARs have been raised:</p> <p>-</p>
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	<input checked="" type="checkbox"/>	N/A – as the PP has not monitored the sustainable development co-benefits of the registered CDM project activity or not requested the DOE to verify them.
		-

E.3.8. Global stakeholder consultation

Means of verification		<p>In accordance with the PCP the DOE has submitted the initial version of the monitoring report provided by the PP for this monitoring period to be published on the UNFCCC webpage.</p> <p>The monitoring report has been published from 26/05/2020</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /MR/ • /unfccc/.
Findings	<input checked="" type="checkbox"/>	No comments have been received on the published monitoring report for this monitoring period.
	<input type="checkbox"/>	Comments have been received and the DOE has concluded that comments are related to issues outside the CDM rules and requirements. Please refer to the list provided under Conclusion of this Section below for related information.
	<input type="checkbox"/>	<p>Comments have been received.</p> <p>The DOE has</p> <ul style="list-style-type: none"> - requested further information from the submitters of the comments - informed the project participants of the comments received, and requested their feedback within a specified timeframe, - considered the input received and has assessed whether such comments are relevant to the CDM project activity, - acknowledged receipt of all submitted comments on the MR of the proposed CDM project activity, - assessed whether the comments are related to the CDM rules and requirements (if so related findings have been raised as per below),

		<ul style="list-style-type: none"> - used all possible means to determine the authenticity of the name and contact details of the individual or organization on whose behalf the comments have been submitted, - contacted the secretariat to make them publicly available (if only addressed to the DOE), - determined whether authentic and relevant comments in the global stakeholder consultation were taken into due account in the PDD of the proposed CDM project activity.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised, i.e. as the DOE concludes that the comments are related to the CDM rules and requirements: -
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs/FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs/FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	<input checked="" type="checkbox"/>	No comments received during the stakeholder consultation process.

SECTION F. Internal quality control

Before the submission of the final verification report a technical review of the whole verification procedure was carried out. The technical reviewers are competent GHG auditors where at least one is being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the verification team and thus not involved in the decision-making process up to the technical review.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may have been confirmed or revised. Furthermore, reporting improvements might have been achieved.

After the successful technical review an overall (esp. procedural) assessment of the complete verification has been carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the submission for requesting for issuance is conducted.

SECTION G. Verification opinion

Envirofit International Ltd. (Envirofit) has commissioned the TÜV NORD JI/CDM Certification Program to carry out the sixth periodic verification of the CDM PoA: “**Improved Cooking Stoves Programme of Activities in Africa**”, covering CPA 5341-P1-0008-CP1, 5341-P1-0009-CP1 and 5341-P1-0010-CP1 with regard to the relevant requirements for CDM Programme of Activities. The PoA reduces GHG emissions due to dissemination of fuel-efficient charcoal and wood stoves compared to the baseline scenario. This verification covers the period from 01/07/2019 - 31/03/2020 (both days included).

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design documents,
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS-II.G. ver. 03.0,
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately,
- the monitoring system is in place and functional. The project has generated GHG emission reductions,
- the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.

TÜV NORD JI/CDM CP further confirms that the project has achieved emission reductions in the above-mentioned reporting period as follows:

Emission reductions: **56,746 tCO₂e**

SECTION H. Certification statement

As a duly accredited DOE, TÜV NORD CERT confirms that the CDM PoA

“Improved Cooking Stoves Programme of Activities in Africa”

registered under

UNFCCC-No.: 5341

CPA 5341-P1-0008-CP1, 5341-P1-0009-CP1 and 5341-P1-0010-CP1

has achieved emission reductions in accordance with all applicable requirements for registered CDM project activities during the current monitoring period

MP-No.: 6
 from: 01/07/2019
 to: 31/03/2020

(including both days) as follows:

Emission reductions: **56,746 tCO₂e**

New Delhi, 18/09/2020




Prakash Kumar Mishra
 Team Leader
 TÜV NORD JI/CDM Certification Program

Appendix 1. Abbreviations

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CME	Coordinating/Managing Entity
CO ₂	Carbon dioxide
CO _{2eq}	Carbon dioxide equivalent
CL	Clarification Request
DOE	Designated Operational Entity
DVerR	Draft Verification Report
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
ICS	Improved Cookstove
IM	Interview Memo
MP	Monitoring Plan
MR	Monitoring Report
PA	Project Activity
POA-DD	Project of Activities Design Document
CPA-DD	Component Project Activities Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
RC	Reliability check work sheets for WBT and field monitoring test
SD	Standard deviation
UNFCCC	United Nations Framework Convention on Climate Change
VT	Verification Team
VVS	Validation and Verification Standard
WBT(P)	Water Boiling Test (Protocol)
XLS	Emission Reduction Calculation Spread Sheet

Appendix 2. Competence of team members and technical reviewers



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JICDM Certification Program

Mr. Prakash Kumar Mishra


SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2025-12-17
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2025-12-17

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand

146 - Rev. 6, Date: 2018-11-21

146_S01-VA000-F20_2018-11-21_01_enf.docx S01-VA000-F20 rev.6 / 2018-10-08



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JICDM Certification Program

Ms. Christina Stöhr


SCHEME	STATUS	VALID UNTIL
CDM	Assessor (Validation, Verification) Technical Reviewer	2023-05-05
VCS / ISO 14064-2	Assessor/ Technical Reviewer	2023-05-05

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
13.1	Solid waste and wastewater

200 - Rev. 6 Date: 2020-04-08

200_S01-VA000-F20_2020-04-08_rev.6 S01-VA000-F20 rev.6 / 2020-10-05



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JICDM Certification Program

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2023-07-27
VCS / ISO14064-2	Senior Assessor (Validation, Verification) Technical Reviewer	2023-07-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
4.1	Cement and lime production
4.2	Paper
5.2	Caprolactam, nitric and adipic acid
9.1	Aluminium and magnesium production
9.2	Iron, steel and Ferro-alloy production
10.1	Fugitive emissions from oil and gas
13.1	Solid waste and wastewater
13.2	Manure

163 - Rev. 7, Date: 2020-07-22

163_S01-VA000-F20_2020-07-22_rev.7 S01-VA000-F20 rev.7 / 2020-10-25

Appendix 3. Documents reviewed or referenced

No.	Author	Reference	Title	References to the document	Provider
1	UNFCCC	/AMS-II.G/	<ul style="list-style-type: none"> AMS-II.G: Energy efficiency measures in thermal applications of non-renewable biomass", version 03.0 	-	Other
2	CME	/CAL/	Purchase records/photos monitoring equipment along with technical specification e.g. Thermometers, scales, anemometer, etc.	-	Other
3	CME	/CPA-DD/	<ul style="list-style-type: none"> CPA-DD titled "Improved Cooking Stoves Programme of Activities in Africa" CPA No. 00008 (Kenya) supported by Republic of Korea Version 4.0, dated 28/02/2019 CPA-DD titled "Improved Cooking Stoves Programme of Activities in Africa" CPA No. 00009 (Kenya) supported by Republic of Korea Version 4.0, dated 28/02/2019 CPA-DD titled "Improved Cooking Stoves Programme of Activities in Africa" CPA No. 00010 (Kenya) supported by Republic of Korea Version 4.0, dated 28/02/2019 	-	Other
4	CME	/DB/	<ol style="list-style-type: none"> ICS Databases sheet (PoA 5341 MP#6 Kenya CPA distribution Database with samples.xlsx) Contractual agreement in between the CME and the DO Proof of Carbon Credits waiver by End user Stoves sales receipts/CPA Distribution Records Evidence for random number generator for sampling Evidence for display of programme logo on the stoves Stove User Agreement 	- Evidence for random number generator for sampling	Other
5	DOE	/CPM/	TUV NORD JI / CDM CP Manual (incl. CP procedures and forms)	-	Other
6	CME	/USAGE/	<ol style="list-style-type: none"> Monitoring Data Kenya integrated as part of the ER worksheet Kenya MP6 Monitoring Survey Forms.pdf 	-	Other
7	IPCC	/IPCC/	<ol style="list-style-type: none"> 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book 	www.ipcc-nggip.iges.or.jp	Other

No.	Author	Reference	Title	References to the document	Provider
8	UNFCCC	/KP/	Kyoto Protocol (1997)	http://unfccc.int/kyoto_protocol/items/2830.php	Other
09	UNFCCC	/MA/	Decision 3/CMP.1 (Marrakesh – Accords)	http://cdm.unfccc.int/Reference/COPMOP/index.html	Other
10	UNFCCC	/MR/	Monitoring Report titled 'Improved Cooking Stoves Programme of Activities in Africa', <ul style="list-style-type: none"> Version 1.0, dated 16/05/2020 Version 2.0, dated 13/08/2020 Version 3.0, dated 17/09/2020 	-	Other
11	UNFCCC	/MRT/	Monitoring Report Form (CDM-PoA-MR-FORM), Version 03.0	https://cdm.unfccc.int/Reference/PDDs_Forms/index.html	Other
12	UNFCCC	/PoA-DD/	Project Design Document for CDM PoA project: "Improved Cooking Stoves Programme of Activities in Africa" version 3.2, dated 27/11/2012	https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/YNXCPIJ5ZO7DTRGMV0F2AKEU486LQS	Other
13	UNFCCC	/PS/	CDM Project Standard for Programme of activities (Version 2.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
14	CME	/SSQ/	<ul style="list-style-type: none"> Sample Monitoring Survey Forms Sample CPA Distribution Records 		Other
15	CME	/VAL/	<ul style="list-style-type: none"> Validation Report for CPA-DD titled "Improved Cooking Stoves Programme of Activities in Africa" CPA No. 00008 (Kenya) supported by Republic of Korea Version 2, dated 15/03/2019 Validation Report for CPA-DD titled "Improved Cooking Stoves Programme of Activities in Africa" CPA No. 00009 (Kenya) supported by Republic of Korea Version 2, dated 15/03/2019 Validation Report for CPA-DD titled "Improved Cooking Stoves Programme of Activities in Africa" CPA No. 00010 (Kenya) supported by Republic of Korea Version 2, dated 15/03/2019 		Other
16	UNFCCC	/VVS/	CDM validation and verification standard for programmes of activities (Version 2.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
18	CME	/WBT/	<ul style="list-style-type: none"> Water Boiling Test Records for charcoal April – May 2020 Water Boiling Test Records for wood May 2020 Analysis sheet of water boiling test (PoA 5341 MP#6 Kenya WBT Efficiency Calculator.xlsx) 	-	Other

No.	Author	Reference	Title	References to the document	Provider
			<ul style="list-style-type: none"> Purchase record of the newly bought instruments used in WBT under the current monitoring period. 		
19	CME	/WBTP/	<ul style="list-style-type: none"> The Water Boiling Test protocol, version 4.2.3 Guidelines for Testing Charcoal Stoves with WBT 4.2.2 June 14, 2013 	-	Other
20	CME	/WC/	End-User Warranty Cards	-	Other
21	UNFCCC	/SAMPLE/	<ul style="list-style-type: none"> "Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities" (version 04.0) "Standard for Sampling and Surveys for CDM Project Activities and Programme Activities" (version 08.0) 	https://cdm.unfccc.int/Reference/Guidclarif/index.html http://cdm.unfccc.int/Reference/Standards/index.html	Other
22	UNFCCC	/GOT/	Glossary "CDM terms" (version 10.0)	https://cdm.unfccc.int/filestore/e/x/t/extfile-20150226124447549-glos_CDM.pdf/glos_CDM.pdf?t=UmZ8bnFiQDI3fDCW9A3wJwR03kQQh4sbLiYu	Other
23	CME	/XLS/	<ul style="list-style-type: none"> Emission Reduction worksheet titled PoA 5341 MP#1 ER Calculator v1.0, corresponding to MR version 1 Emission Reduction worksheet titled PoA 5341 MP#6 ER Calculator v2.0 13082020.xlsx 	-	PP
24	CME	/RC/	Reliability Check <ul style="list-style-type: none"> Sample size and Reliability check for WBT integrated into the ER worksheet 	-	PP
25	UNFCCC	/unfccc/	UNFCCC	http://cdm.unfccc.int	Other
26	IPCC	/ipcc/	IPCC publications	www.ipcc-nggip.iges.or.jp	Other
27	CME	/TRG-MANUAL/	Training records of imparted training for below fields: <ul style="list-style-type: none"> WBT team training records Usage Survey team-Guidance note on monitoring Survey Sales and marketing team and all relevant personnel involved in GHG monitoring Monitoring team CDM PoA 5341 Kenya CME Manual 		Other
28	PP	/VERIF/	Verification and Certification Report for CDM programme of activities titled "Improved Cooking Stoves Programme of Activities in Africa" for CPA No. 0001		

No.	Author	Reference	Title	References to the document	Provider
			to CPA No. 0007 Version 05 dated 03/02/2019 Verification and Certification Report for CDM programme of activities titled "Improved Cooking Stoves Programme of Activities in Africa" for CPA No. 0008 to CPA No. 0010 Version 02 dated 04/05/2020 (https://cdm.unfccc.int/PoAAssuance/iss_db/poais32562647/view)		
29	PP	/QA/QC/	Internal QA/QC quarterly report for data review process	-	Other

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

Table 3. Remaining FARs from validation and/or previous verification

FAR ID	-	Section no.	-	Date: DD/MM/YYYY
Description of FAR				
CME response				Date: DD/MM/YYYY
Documentation provided by the CME				
DOE assessment				Date: DD/MM/YYYY

Table 4. CLs from this verification

CL ID	01	Section no.	ER worksheet	Date: 06/08/2020
Description of CL				
Justification/ transparency is requested concerning the calculation of the ex-ante emissions are evaluated under section F.5.1 of the MR.				
CME response				Date: 13/08/2020
The calculation of the ex-ante emissions has been provided under section F.5.1 of the revised MR.				
Documentation provided by the CME				
PoA-5341 MP6 Kenya MR v2.0 13082020				
DOE assessment				Date: 30/08/2020
The MR is updated with the breakup of the ex-ante emission reduction. The vintage-wise (2019 and 2020) breakup of days and the expected emission reductions is transparently stated. The Assessment Team Reconfirms the calculation as below for CPA 008:				
Vintage	Ex-ante ER as per CPA-DD	Days in the year under applied MP	Duration of MP in that vintage	Pro-rata calculation of ERs (tCO ₂ e) for CPA 008
2019	34,705 tCO ₂ e	292 days	184 days	= 34,705 * 184 / 292 = 21,869 tCO ₂ e
2020	43,382 tCO ₂ e	366 days	91days	= 43,382 * 91 / 366 = 10,786 tCO ₂ e
Total				32,655 tCO ₂ e

Same estimates of ER apply to the CPA 009 and CPA 010. Thus, the estimated ERs are

Vintage	Ex-ante ER as per CPA-DD (tCO ₂ e)
CPA 008	32,655
CPA 009	32,655
CPA 010	32,655
Total	97,965

Thus, the CL 01 has been CLOSED.

Table 5. CARs from this verification

CAR ID	01	Section no.	E.2	Date: 06/08/2020
Description of CAR				
The CPAs 8, 9 and 10 deploy various stove models CH5200, CH5300, Econochar, M5000 and Econofire.				
<ul style="list-style-type: none"> Accordingly, the, values of $\eta_{new,y}$ monitored parameter are not provided for each stove model separately The CPA wise distribution of the parameter N_{all} value is missing The parameters SOF, μ_{old}, f_{old} and $Stove_{year}$ are not provided separately for charcoal and wood 				

CME response	Date: 13/08/2020
<ul style="list-style-type: none"> The monitored value of $\eta_{new,y}$ for each stove model has now been mentioned in revised MR. The CPA wise distribution of the parameter N_{all} has been mentioned in revised MR. Separate values for parameters SOF, μ_{old}, f_{old} and $Stove_{year}$, for charcoal and wood stoves have been mentioned in revised MR. 	
Documentation provided by the CME	
PoA-5341 MP6 Kenya MR v2.0 13082020	
PoA 5341 MP#6 ER Calculator v2.0 13082020	
DOE assessment	Date: 30/08/2020
<ul style="list-style-type: none"> The MR is now updated with the monitored values of the parameter $\eta_{new,y}$. The CME has provided the WBT Reports and the associated worksheet for the calculations of the parameter $\eta_{new,y}$. The Verification Team checked and confirms that the calculation of the parameter $\eta_{new,y}$ is appropriate and inline with the WBT protocol by PCIA as available on GACC website. The WBT tests conducted, were distributed across various models present in the CPAs under verification. Finding is CLOSED. The Verification Team has checked the ICS Databases sheet and compared the outcomes with the submitted ER worksheet and confirms that the CPA wise distribution of the parameter N_{all} value is appropriately updated section E.2 of MR. Finding is CLOSED. The parameters SOF, μ_{old}, f_{old} and $Stove_{year}$ are checked with the submitted ER and associated supporting documents. <ul style="list-style-type: none"> SOF: The CME has appropriately measured the parameter based on the number of operational ICS installations within the sampled ICS. The submitted ER worksheet, survey forms were reviewed and it is confirmed that the parameter is appropriately monitored. μ_{old}: CME has appropriately measured the parameter based on the monitoring survey within the sampled ICS. The submitted ER worksheet, survey forms were reviewed and it is confirmed that the parameter is appropriately monitored. f_{old}: Same as μ_{old} $Stove_{year}$: This parameter is calculated based on the PoA Distribution and Monitoring Database which captures the date of installation. Based on the date of installation, this parameter is appropriately captured. <p>The Verification Team checked section E.2 of MR and deems that the updated values are appropriate. Finding is CLOSED.</p>	
CAR 01 has been CLOSED.	

CAR ID	02	Section no.	C, E.3	Date: 06/08/2020
Description of CAR				
<ul style="list-style-type: none">• The section C.1 of the MR does not provide the distribution of the total number of stoves and its type installed under CPA (8, 9 and 10) are missing• Calculation of sample size for each parameter is not provided under section E.3 of MR• Demonstration of meeting the requisite confidence/precision for each parameter is missing under section E,3 of MR• Details/ dates for performing the survey as well as results is missing• Details/ dates for performing WBT test as well as results is missing				
CME response				Date: 13/08/2020
<ul style="list-style-type: none">• The distribution of the total number of stoves (model and type) installed under CPA (8, 9 and 10) has now been provided now under section C.1 of the revised MR.• Calculation of sample size for each parameter has been provided in section E.3 of the revised MR.• The confidence/precision achieved for each parameter is now given in section E.3 of revised MR.• Details/ dates for performing the survey as well as monitoring results has been provided now in revised MR.• Details/ dates for performing WBT test as well monitoring results has been provided now in revised MR.				
Documentation provided by the CME				
PoA-5341 MP6 Kenya MR v2.0 13082020				
PoA 5341 MP#6 ER Calculator v2.0 13082020				
DOE assessment				Date: 30/08/2020

- The MR section C is now updated. The stated information on the number of distributed stoves is verified from the PoA Distribution and Monitoring Database and deemed as appropriate. Finding has been CLOSED.
- Section E.3 is now updated to report the sample size for each parameter. The calculation is verified from the ER worksheet. Finding is CLOSED.
- Section E.3 is now updated to report the requisite confidence/precision for each parameter. For the parameters SOF, μ_{old} , and $\eta_{new,y}$, the achieved relative precision of 10% and 95% confidence level is demonstrated to be met. For parameter f_{old} the required confidence/precision was not found to be met and CME has correctly applied a lower bound value in accordance with §22 of the applied methodology AMS-II.G. version 3.0 and §10 of the "Standard for Sampling and Surveys for CDM Project Activities and Programme Activities" version 8.0. The calculation is verified from the ER worksheet. Finding is CLOSED.
- The dates of performing survey was April-May 2020. This is also verified from the submitted survey forms and Remote interviews with end users. Finding is CLOSED.
- The dates of performing WBT test was April-May 2020. This is also verified from the submitted WBT Test Reports and Remote interviews with end users. Finding is CLOSED.

CAR 02 has been CLOSED.

CAR ID	03	Section no.	Various sections of MR	Date: 06/08/2020
Description of CAR				
<ul style="list-style-type: none"> • Emission Reduction worksheet is pending. Consistency check for all the values provided in MR will be performed after receipt of the ER worksheet. • The section F.1 of MR is deficient with respect to the outcomes of the calculation of baseline emissions/ removals. 				
CME response				Date: 13/08/2020
<ul style="list-style-type: none"> • Emission Reduction worksheet is now provided. All the values provided in MR have been made consistent with the values given in the ER worksheet. • The section F.1 of MR has been made consistent with respect to the calculated baseline emissions/ removals. 				
Documentation provided by the CME				
PoA-5341 MP6 Kenya MR v2.0 13082020				
PoA 5341 MP#6 ER Calculator v2.0 13082020				
DOE assessment				Date: 30/08/2020
<ul style="list-style-type: none"> • The ER worksheet is submitted, the input values into the ER worksheet are verified. The calculation method is verified with the CPA-DD. The Verification Team confirms that the input values and the calculation method is deemed as appropriate. Finding has been CLOSED. • Accepted. The section F.1 is appropriately updated with respect to calculations which are consistent and appropriate. 				
CAR 03 has been CLOSED.				

CAR ID	04	Section no.	-	Date: 06/08/2020
Description of CAR				
Following documents are requested:				
<ul style="list-style-type: none"> • ICS Databases sheet • Contractual agreement in between the CME and the DO • Proof of Carbon Credits waiver by End user • Stoves sales receipts • Evidence for random number generator for sampling • Evidence for display of programme logo on the stoves • Stove User Agreement • Sample Usage Survey Forms, • Usage survey analysis report integrated as part of the ER worksheet • PoA 5341 MP#6 Monitoring Survey Forms • Sample Monitoring Survey Forms • Sample CPA Distribution Records • Water Boiling Test Records • Analysis sheet of water boiling test • Purchase record of the newly bought instruments used in WBT under the current monitoring period • End-User Warranty Cards 				

<ul style="list-style-type: none"> • Sample size and Reliability check for WBT • Training records of imparted training for below fields: <ul style="list-style-type: none"> ○ WBT team training records ○ Usage Survey Team-Guidance note on monitoring Survey ○ Sales and marketing team and all relevant personnel involved in GHG monitoring ○ Monitoring team ○ CDM PoA 5341 Kenya CME Manual 	
CME response	Date: 13/08/2020
The requested documents are being submitted.	
Documentation provided by the CME	
<ul style="list-style-type: none"> • CPA distribution Database with samples • Contractual agreement in between the EF Kenya (DO) and EF International (CME) • Proof of Carbon Credits waiver by End user/ Stoves Sales receipts/ Stove User Agreement • Evidence for random number generator for sampling • Stove Photographs Tested • Monitoring Survey Hard copy forms • Usage survey analysis report integrated as part of the ER worksheet • Water Boiling Test Records • WBT efficiency calculator excel sheet • Monitoring equipments invoice • ER worksheet • EPTP Protocol • Training records of imparted training for below fields: <ul style="list-style-type: none"> ○ WBT team training records ○ Usage Survey Team-Guidance note on monitoring Survey ○ Sales and marketing team and all relevant personnel involved in GHG monitoring ○ Monitoring team 	
DOE assessment	Date: 30/08/2020
All the above stated supporting documents were provided and assessed and the input values were deemed as appropriate and consistent with the ER worksheet and other disclosure (dated, QA/ QC requirements).	
CAR 04 has been CLOSED.	

Table 6. FARs from this verification

FAR ID	Xx	Section No.	Date: DD/MM/YYYY
Description of FAR			
CME response			
Date: DD/MM/YYYY			
Documentation provided by the CME			
DOE assessment			
Date: DD/MM/YYYY			

Appendix 5. Monitored Parameters

Table A-5: Periodic Verification Checklist – Monitored Parameters

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
1. <i>N_{all}</i>,		Total number of stoves installed		
<p>a) <i>Measurement / Determination method (VVS, §§ 346-350)</i></p> <p><i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i></p> <p><i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>	<p>/PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /XLS/ /VAL/ /VERIF/</p>	<p><i>Description:</i></p> <p>The number of stoves installed are tracked through sales database for Econofire /SmartSaver Wood, M5000/Supersaver Wood, CH5300 - Charcoal, CH5200 - Charcoal and Econochar /SmartSaver Charcoal and recorded in CPA Distribution Records. The recording of the sales is done on continuous/regular basis and the PoA Distribution and Monitoring Database is accordingly updated. The recording contains the details like name of the user, the unique serial number of the stove, stove model, the date of distribution and the beneficiary address and other contact details. The sellers retain one copy of CPA distribution record which is returned to CME.</p> <p>CME has followed the registered monitoring plan of the PoA and CPA-DD and set forth the provision to conduct an annual survey to monitor this parameter through sampling and survey.</p> <ul style="list-style-type: none"> • CPA wise “Total number of stoves installed” is not presented under section C and E.2 of MR. Emission Reduction worksheet is pending. CAR 02, CAR 01 and CAR 03 are raised. • Since the ICS database is not provided, CAR 04 has been raised. <p><i>Verifier’s action:</i></p> <p>The verification team pulled stored random forms and compared the details of the indicated with the information in the provided end user database (PoA Distribution and Monitoring Database). Furthermore, the team randomly selected households from the CME monitoring data and conducted remote assessment to compare the information in the end user database with the actual stoves being used in the field.</p>	<p>CAR 01, CAR 02, CAR 03, CAR 04</p>	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<i>Conclusion:</i> The Assessment Team has raised CAR 01, CAR 02, CAR 03 and CAR 04.		
b) Accuracy and QA/QC Procedure (VVS, §§ 351-357) <i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i> <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i> <i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Appendix 6.</i>	/PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /XLS/ /VERIF/ /VAL/	<i>Description:</i> No monitoring instruments are deployed. The number of stoves distributed is ensured by CPA Sales Database and warranty cards. The warranty Card depicts the summary for each stove type while the CPA Sales Data base captures the details of the beneficiary. The two must be internally consistent. Administrative staff at the producer's office cross-check the information once more against the warranty cards. The CPA Sales Database is integrated into the PoA Distribution and Monitoring Database maintained by CME. <i>Verifier's action:</i> The verifier cross-checked all documents: sample warranty cards, CPA sales databases, and carried out remote assessment, interviews and desk review. <i>Conclusion:</i> CAR 04 has been raised.	CAR 04	OK
c) Correctness (VVS, §§ 346-350) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i> <i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>	/PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /XLS/ /VERIF/ /VAL/	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) <i>Description:</i> The value given in the draft MR cannot be deemed as appropriate as there are pending issues. <i>Verifier's action:</i> The verification team compared the monitoring procedures, Data bases, Warranty Cards and QA/QC measures. <i>Conclusion:</i> CAR 01, CAR 02, CAR 03 and CAR 04 were raised.	CAR 01, CAR 02, CAR 03, CAR 04	OK
2. SOF		Stove Operation Fraction – used to determine the share of distributed stoves that are still operating, measured ex-post through sampling		
a) Measurement / Determination method (VVS, §§ 346-350) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but</i>	/IM01/ /PoA-DD/ /CPA-DD/ /AMSII.G/	<i>Description:</i> The parameter represents the investigation of the proportion of operational ICS installations within the sampled ICS. This parameter is measured ex-post through sampling approach. The	CAR 01, CAR 03	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</p> <p>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</p> <p>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>	<p>/DB/ /WC/ /MR/ /XLS/ /USAGE/ /VERIF/ /VAL/</p>	<p>parameter is determined appropriately on annual basis as per the PoA monitoring requirements.</p> <p>The SOF is calculated based on the established correlation:</p> $\text{SOF} = n_{\text{Operational}} / n_{\text{Total}},$ <p>where n = number of samples</p> <p>In addition, the verification team has interviewed the enumerators to confirm that the CME provided training, verified the guidelines and monitoring templates to ensure that the survey was followed as per appropriate procedures.</p> <p>The verification Team assessed the competency of the personnel involved and deems the same as appropriate.</p> <ul style="list-style-type: none"> CPA wise “Stove Operation Fraction – used to determine the share of distributed stoves that are still operating, measured ex-post through sampling” is not presented under section E.2 of MR. Emission Reduction worksheet is pending. CAR 01 and CAR 03 are raised. <p><i>Verifier’s action:</i> The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators. Survey results were assessed.</p> <p><i>Conclusion:</i> The Determination method was found in line with the established monitoring plan. However CAR 01, CAR 03 were raised.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 351-357)</p> <p>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</p>	<p>/IM01/ /PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /XLS/ /USAGE/</p>	<p><i>Description:</i> The parameter represents the investigation of the number of operational ICS installations within the sampled ICS. Thus, the results are based on the survey outcomes. No instruments are utilized. However, the outcomes of the quality checks of the sampling approach and data confirms that the results are within the accuracy limits are not transparently reported. CAR 02 has been raised.</p>	CAR 02	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance. Include calibration dates and information in validity of the installed monitoring equipment in the table in Appendix 6.</i>	/VERIF/ /VAL/	<i>Verifier's action:</i> The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators. Survey results were assessed. <i>Conclusion:</i> CAR 02 was raised.		
c) Correctness (VVS, §§ 346-350) Determine whether the value given in the monitoring report is correct or determined in a conservative manner. In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.	/IM01/ /PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /XLS/ /USAGE/ /VERIF/ /VAL/	<input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment) <i>Description:</i> The results are accurate. The parameter is determined based on the provision of the established monitoring plan. <i>Verifier's action:</i> The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators. <i>Conclusion:</i> CAR 01, CAR 02, CAR 03 were raised.	CAR 01, CAR 02, CAR 03	OK
3. $\eta_{new,y}$		Efficiency of the system being deployed as part of the project activity		
a) Measurement / Determination method (VVS, §§ 346-350) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Furthermore, verify the frequency of measurements as per the requirements.</i> <i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i>	/IM03/ /PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /RC/ /XLS/ /USAGE/ /VERIF/ /VAL/ /TRG/	<i>Description:</i> The efficiency of stoves deployed was determined through the sample testing of stoves by performing WBTs The CME has undertaken <ul style="list-style-type: none"> Water Boiling Test Report April-May 2020 The reported values of the thermal efficiency of different stove models are presented in the WBT report Weighted Average efficiency has been calculated as more than one type stove model has been distributed, calculation worksheet integrated as part of the ER worksheet under tab: "WBT Summary" is submitted. However, the WBT report is not submitted, CAR 04 has been raised. CAR 01 is raised as the values of $\eta_{new,y}$ monitored parameter are not provided for each stove model separately <i>Verifier's action:</i>	CAR 04, CAR 01	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>The verification team has reviewed the step-by-step protocol followed in determining the sample size per age group, selecting appropriate conditions and conducting the overall WBTs. The director in charge of WBTs has been interviewed on procedures, calibration and training. Based on assessment of training records of the WBT personnel and other person involved in the test along with their personal interview during remote assessment it could be confirmed that the WBT calculation which is part of the MR is reliable and hence, acceptable.</p> <p><i>Conclusion:</i> The calculations of sample sizes and measurement procedures have largely followed applied methodology and registered monitoring/sampling of the PoA/CPA-DD and also in coherence with WBT protocol by PCIA as available on GACC website. The WBT tests conducted, were distributed across various models present in the CPAs under verification. The MR is however deficient with the outcomes of this parameter for each stove model.</p> <p>Based on above, verification team can conclude that efficiency test results presented for the various models of ICS under current monitoring period can be accepted as deemed appropriate and in line with registered monitoring plan, applied methodology and WBT protocol subjected, however CAR 01 and CAR 04 were raised.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 351-357)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance. Include calibration dates and information in validity of the installed monitoring equipment in the table in Appendix 6.</i></p>	<p>/IM03/ /PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /RC/ /XLS/ /USAGE/ /VERIF/ /VAL/</p>	<p><i>Description:</i> The verification team requested for calibration records and status of equipment used in conducting the WBTs (Thermometers, weighing scale, moisture meter). In addition, the stoves selected needs to be checked and compared with the information in the WBT reports. CAR 04 has been raised. However, the outcomes of the quality checks of the sampling approach and data confirms that the results are within the accuracy limits are not transparently reported. CAR 02 has been raised and subsequently closed.</p> <p><i>Verifier's action:</i></p>	CAR 02	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>The audit team conducted remote assessment and interviewed the staff members. Questions included testing procedures, QA/QC measures, calculations and testing conditions, reliability checks.</p> <p><i>Conclusion:</i> Details of calibration are requested to ascertain the QA/ QC procedures. CAR 02 has been raised.</p>		
<p>c) Correctness (VVS, §§ 346-350) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i> <i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	<p>/IM03/ /PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /RC/ /WC/ /MR/ /XLS/ /USAGE/ /VERIF/ /VAL/</p>	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> Values have been presented in section E.2 of the MR and as per the provided excel calculations. However, accuracy is subjected to resolution of pending issue i.e. submission of the WBT report.</p> <p><i>Verifier's action:</i> The verification team has reviewed the step-by-step protocol followed in determining the sample size per age group, selecting appropriate conditions and conducting the overall WBTs. The in charge of WBTs has been interviewed on procedures calibration and training. The WBT calculation which is part of the MR has been analysed along with the reliability check.</p> <p><i>Conclusion:</i> The calculations have been checked, nevertheless the CAR 01, CAR 02 and CAR 04 has been raised.</p>	<p>CAR 01, CAR 02, CAR 04</p>	OK
4. μ_{old}		The amount of woody biomass consumption that is consumed through the continued use of old stoves		
<p>a) Measurement / Determination method (VVS, §§ 346-350) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Furthermore, verify the frequency of measurements as per the requirements.</i></p>	<p>/IM03/ /PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /XLS/ /USAGE/ /VERIF/</p>	<p><i>Description:</i> The amount of woody biomass consumption that is consumed through the continued use of old stoves is calculated following the provisions of Option A of the CPA-DD. A monitoring survey was undertaken using a survey questionnaire. The monitoring is entirely done with the help of survey questionnaire and does not involve any monitoring equipment. The verification Team confirms that the parameter is calculated by multiplying the baseline Fuel Consumption, $Q_{biomass}$, by the ratio of meals cooked on the traditional stove in operation before and after</p>	<p>CAR 01, CAR 04</p>	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.	/VAL/	<p>purchasing the Envirofit Stove as reported by households with continued usage of baseline stoves.</p> <p>The verification team assessed the competency of the personnel involved and deems the same as appropriate.</p> <p>The parameter μ_{old} was not provided separately for charcoal and wood, CAR 01 has been raised. Supporting evidences are not submitted CAR 04 has been raised.</p> <p><i>Verifier's action:</i> The audit team conducted remote assessment and conducted interviews with the staff members present. Questions included testing procedures, QA/QC measures, calculations and testing conditions. Survey results were assessed.</p> <p><i>Conclusion:</i> The parameter has been monitored as per the requirements of the established monitoring plan. However, CAR 01 and CAR 04 were raised. .</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 351-357)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p> <p><i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Appendix 6.</i></p>	/IM03/ /PoA-DD/ /CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /XLS/ /USAGE/ /VERIF/ /VAL/	<p><i>Description:</i> The parameter represents the amount of woody biomass consumption that is consumed through the continued use of old stoves. Thus, the results are based on the survey outcomes. No instruments are utilized. However, the outcomes of the quality checks of the sampling approach and data confirms that the results are within the accuracy limits are not transparently reported. CAR 02 has been raised.</p> <p><i>Verifier's action:</i> The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators. Survey results were assessed.</p> <p><i>Conclusion:</i> CAR 02 has been raised.</p>	CAR 02	OK
<p>c) Correctness (VVS, §§ 346-350)</p>	/IM03/ /PoA-DD/	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i></p>	CAR 01,	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner. In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given. In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>	/CPA-DD/ /AMSII.G/ /DB/ /WC/ /MR/ /XLS/ /USAGE/ /VERIF/ /VAL/	The results are accurate. The parameter is determined based on the provision of the established monitoring plan. <i>Verifier's action:</i> The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators. <i>Conclusion:</i> However, accuracy is subjected to resolution of pending issues. CAR 01, CAR 02 and CAR 04 have been raised.	CAR 02, CAR 04	
5. f_{old}		The fraction of end users that are still using baseline (replaced) stoves		
a) Measurement / Determination method (VVS, §§ 346-350) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i>	/PoA-DD/ /CPA-DD/ /AMSII/ /XLS/ /MR/ /IM03/ /USAGE/	<i>Description:</i> The fraction of end users that are still using baseline (replaced) stoves is determined based on survey. A monitoring survey was undertaken using a survey questionnaire on annual basis. The monitoring is entirely done with the help of survey questionnaire and does not involve any monitoring equipment. The verification team confirms that the parameter is calculated by Option B from the PoA Sampling Plan, by estimating the fraction of end users not using baseline stoves ($f_{non,old}$), where: $f_{old} = 1 - f_{non,old}$ The verification Team assessed the competency of the personnel involved and deems the same as appropriate. The supporting documents for the parameter is not submitted. CAR 04 has been raised. <i>Verifier's action:</i> The audit team has conducted remote assessment and conducted interviews with the staff members present. Questions included testing procedures, QA/QC measures, calculations and testing conditions. Survey results were assessed. <i>Conclusion:</i> The parameter has been monitored as per the requirements of the established monitoring plan. CAR 04 has been raised.	CAR 04	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
b) Accuracy and QA/QC Procedure (VVS, §§ 351-357) <i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i> <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i> <i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Appendix 6.</i>	/PoA-DD/ /CPA-DD/ /AMSII/ /XLS/ /MR/ /IM03/ /USAGE/	Description: The parameter represents the fraction of end users that are still using baseline (replaced) stoves and is determined based on survey. Thus, only the results are based on the survey outcomes. No instruments are utilized. However, the quality checks of the sampling data and procedures confirms that the results are within the accuracy limits. Verifier's action: The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators. Survey results were assessed. Conclusion: The parameter is determined appropriately. However, accuracy is subjected to resolution of pending issues. CAR 02 has been raised.	CAR 02	OK
c) Correctness (VVS, §§ 346-350) <i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i> <i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i> <i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>	/PoA-DD/ /CPA-DD/ /AMSII/ /XLS/ /MR/ /IM03/ /USAGE/	<input checked="" type="checkbox"/> Correct <input type="checkbox"/> Not correct (initial assessment) Description: The results are accurate. The parameter is determined based on the provision of the established monitoring plan. Verifier's action: The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators. Conclusion: The parameter is determined appropriately. However, accuracy is subjected to resolution of pending issues. CAR 02 and CAR 04 has been raised.	CAR 02, CAR 04	OK
6. Stove_{year}		Calculated average stove year in the monitoring period.		
a) Measurement / Determination method (VVS, §§ 346-350) <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other</i>	/PoA-DD/ /CPA-DD/ /AMSII/ /XLS/ /MR/ /IM03/ /WC/	Description: The calculated average stove year in the monitoring period is determined based on PoA Distribution and Monitoring Database was linked to a distribution date (recorded during distribution). The verification team assessed the competency of the personnel involved. The parameter Stove _{year} is not provided separately for	CAR 04, CAR 04	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</p> <p>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</p>		<p>charcoal and wood, CAR 01 has been raised. The supporting documents for the parameter is not submitted. CAR 04 has been raised.</p> <p><i>Verifier's action:</i> The audit team conducted remote assessment and conducted interviews with the staff members present. Questions included testing procedures, QA/QC measures, calculations and testing conditions. Survey results were assessed.</p> <p><i>Conclusion:</i> The parameter has been monitored as per the requirements of the established monitoring plan. CAR 01 and CAR 04 were raised.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 351-357)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p> <p><i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Appendix 6.</i></p>	<p>/PoA-DD/ /CPA-DD/ /AMSII/ /XLS/ /MR/ /IM03/</p>	<p><i>Description:</i> The parameter represents Calculated average stove year in the monitoring period. Thus, only the results are based on the calculation determined from PoA Distribution and Monitoring Database was linked to a distribution date (recorded during distribution). No instruments are utilized. However, the quality checks of the sampling data confirm that the results are within the accuracy limits.</p> <p><i>Verifier's action:</i> The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators. Survey results were assessed.</p> <p><i>Conclusion:</i> The parameter is determined appropriately. However, accuracy is subjected to resolution of pending issues. CAR 02 has been raised.</p>	CAR 02	OK
<p>c) Correctness (VVS, §§ 346-350)</p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p>	<p>/PoA-DD/ /CPA-DD/ /AMSII/ /XLS/ /MR/ /IM03/</p>	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The results cannot be deemed as accurate as CAR 01, CAR 02 and CAR 04 have been raised.</p> <p><i>Verifier's action:</i></p>	CAR 01, CAR 02, CAR 04	OK

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i>		<p>The verification team verified the survey results, sampling methodology, the templates/ forms utilized for monitoring and interviewed the enumerators.</p> <p><i>Conclusion:</i> The parameter is determined appropriately. However, accuracy is subjected to resolution of pending issues. CAR 01, CAR 02, and CAR 04 has been raised.</p>		

Appendix 6. Calibration dates and validity of installed monitoring equipment

Table A-6: Periodic Verification Checklist – Calibration details

Monitoring equipment	Related monitoring parameter as per applicable registered monitoring plan	Serial number	Type	Accuracy or accuracy class	Previous calibration (last calibration before start of this monitoring period)	Calibration date(s) during this monitoring period	Validity of calibration(s)	Delay in calibration: yes/no	Period of delayed calibration
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<input type="checkbox"/> No <input type="checkbox"/> Yes	From: To:
-	-	-	-	-	-	-	-	<input type="checkbox"/> No <input type="checkbox"/> Yes	From: To:

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31May 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	5June 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: programme of activities, verifying and certifying		