




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

BASIC INFORMATION			
Title and UNFCCC reference number of the programme of activities (PoA)	10341: MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa		
Version number(s) of the PoA-DD(s) to which this report applies	6		
Version number of the verification and certification report	2.0		
Completion date of the verification and certification report	18/08/2021		
Monitoring period number and duration of this monitoring period	Monitoring period: Second Monitoring period duration: 26/03/2020 to 31/12/2020 (including both days)		
Number and version number of the monitoring report to which this report applies	Number of monitoring report: 1 Version of monitoring report: 3, dated 07/08/2021		
Coordinating/managing entity (CME)	MicroEnergy Credits Corp		
Host Parties	Host Parties of the PoA	Is this a host Party to a CPA covered in this report? (yes/no)	
	Kenya	Yes	
	Uganda	No	
Applied methodologies and standardized baselines	Applied methodologies: 1. AMS-III.AR “Substituting fossil fuel based lighting with LED/CFL lighting systems” (Version 5) 2. AMS-II.G: “Energy efficiency measures in thermal applications of non-renewable biomass” (Version 08) 3. AMS III.AV: “Low greenhouse gas emitting water purification systems” (Version 05) Standardized baseline: NA		
Mandatory sectoral scopes	1: Energy industries (renewable - / non-renewable sources) 3: Energy demand		
Conditional sectoral scopes, if applicable	None		
Estimated amount of GHG emission reductions or GHG removals for this monitoring period in the included CPAs covered in this report	80,094 tCO ₂		
Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs	Amount before 1 January 2013	Amount from 1 January 2013 until 31 December 2020	Amount from 1 January 2021

covered in this report	0 tCO ₂ e	29,804 tCO ₂ e	0 tCO ₂ e
Name and UNFCCC reference number of the DOE	Earthood Services Private Limited: E0066		
Name, position and signature of the approver of the verification and certification report	 Dr. Kaviraj Singh Managing Director		

SECTION A. Executive summary

The PoA under verification involves the disbursement of Clean Energy Products (CEP) in East African nations Kenya and Uganda. The CEPs distributed are Improved Cook Stoves (ICS), Water Purifiers (WPS) and Solar Lighting Systems (SLS).

This distribution takes place with the help of Partner Organisations (PO), which work on the grass-root level. The CEP's distribution results in a reduction of GHG emission that would have been generated in the absence of implementation of this PoA. The CME (MicroEnergy Credits Corp) develops programs with the help of POs (microfinance institution), and then trains it to implement the program, which includes business planning, capacity building, marketing of CEP, education, and knowledge on supply chain processes. CME then implements a tracking and monitoring system, which is to ensure a transparent quantification and record keeping of CERs generated through the program developed with the POs.

The households in areas where the PoA implementation has taken place use inefficient traditional cookstoves for cooking. It has been replaced with improved cookstoves which combust fuel more efficiently than traditional cookstoves, resulting in the lesser generation of GHG and particulate matter.

Distribution of water purifiers results in access to safe drinking water to households while reducing the emissions from boiling of water in areas where boiling is the general practice before water consumption. This results in reduced fuel usage, and thus reduced GHG emissions.

The solar lighting systems provided under this PoA result in the fulfilment of lighting needs through renewable alternatives, which declines the dependency of the population on kerosene based lamps.

The PoA is primarily aimed at marketing, distribution, and finance of Clean Energy Products (CEPs) such as Solar Lighting Systems, Efficient charcoal/wood based cook stoves, and Water Purifiers for low income households and microentrepreneurs in Kenya and Uganda. The fuel used for cooking, lighting, or boiling water (for purification) would be reduced significantly from usage of these project devices, thus reducing the consumption of non-renewable fuels. The introduction of improved or renewable energy based technologies (CEPs) into the households would reduce the carbon emissions.

In the current issuance, two of the above technologies are included in the CPAs i.e., solar lighting systems and improved cookstoves.

The partner organizations (POs) control clean energy lending units and also act as CPA implementers. There are different POs in Africa, which in partnership with MEC developed a clean energy-lending program to offer the CEPs included in the PoA. The POs and CME keep track of the list of CEP installations concerning to the PoA in the electronic Credit Tracker Platform.

Under the CPA being verified for this issuance, MicroEnergy Credits works with POs listed below-

S.no	CPA Ref No.	Partner Organisations
1.	10341-P1-0001-CP1	Equity Bank, Juhudi and d.light

The CEP users sign a title transfer with the PO while purchasing the product. The title transfer affirms the legal rights of the carbon credits generated by the CEP to the POs. The PO has signed the standard contractual agreement with the CME (MEC) to participate in the PoA, which guides the transfer of the emission reduction rights to the CME (MEC). Each PO has a mechanism of allocating at least three unique identifiers to each CEP so that there is no inter and/or intra-CPA double counting.

Scope of verification:

The verification is an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE. The verification includes the implementation and operation of the PoA as set out in the revised accepted PoA-DD/4/ & revised accepted CPA-DD/9/ in the monitoring period for the CPA included in this issuance i.e., 10341-P1-0001-CP1. The verification tests the data and assertions set out in the monitoring report based on the following:

The verification tests the data and assertions set out in the monitoring report prepared for this monitoring period by the CME and is based on the following:

1. The approved methodology AMS II.G "Energy efficiency measures in thermal applications of non-renewable biomass" (version 08)/7/, AMS III.AV "Low greenhouse gas emitting water purification systems" (Version 05)/8/ and AMS-III.AR "Substituting fossil fuel based lighting with LED/CFL lighting systems" (Version 5)/6/ applied in the PoA-DD & CPA-DD.

2. The registered and/or revised accepted PoA DD & revised accepted CPA-DD and monitoring plan
3. UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords
4. The CDM Validation and Verification Standard for PoA Version 02/1/
5. The CDM Project Standard for PoA Version 02/2/ and Project Cycle Procedure for PoA Version 02/3/
6. Relevant decisions, guidance and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity's reported emission reductions

The verification has considered both quantitative and qualitative aspects of stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC, as appropriate to the PoA. The verification is not meant to provide any consulting or recommendations to the CME/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

Verification Process:

The verification process is conducted as per internal CDM Quality Manual, which includes the following steps;

1. Contract with MicroEnergy Credits Corp and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)
2. Completeness check of Monitoring Report
3. Publication of Monitoring Report at UNFCCC website
4. Desk review (refer Section D.1 of this report) of Monitoring Report and corresponding ER sheet by verification team and planning of onsite/ remote audit (including sampling approach (refer Section D.4 of this report) to be applied)
5. On-site audit/ remote audit (refer Section D.2 of this report)
6. Follow up activities e.g., interviews (refer Section D.3 of this report)
7. Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.5 of this report)
8. Independent technical review (refer Section F of this report) of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and pieces of evidence)
9. Reporting and closure of TR comments/findings (refer Section D.5 of this report) (CARs/CLs/FARs) and final approval for the decision made (refer Section G and H of this report).
10. Issuance of final verification report to contracted CME (or authorized representatives) and submission of a request for issuance, as appropriate.

Verification Conclusion:

Based on the outcome of the verification process of the registered PoA "MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa"/4/ and its CPA "10341-P1-0001-CP1", for the monitoring period 26/03/2020 to 31/12/2020 (including both dates), we confirm that the implementation of referenced registered PoA and CPA is complying with applicable CDM rules and regulations as stated in the Monitoring Report (final) Version 3 dated 07/08/2021 /12/. The GHG emission reductions were calculated correctly based on the applied methodologies and the monitoring plan contained in the revised accepted PoA-DD.

Earthood Services Private Limited was able to certify that the emission reductions from the registered CDM PoA UN#10341 "MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa" in Kenya during the period 26/03/2020 to 31/12/2020 (including both days) amount to 29,804 tCO_{2e}. Therefore, this is being submitted for the request for issuance, as per UNFCCC procedures.

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	IR	Guleria	Shifali	Central Office	Y	N	Y	Y
2.	Verifier	IR	Sahni	Rahi	Central Office	Y	N	Y	Y
3.	Methodological expert	IR	Guleria	Shifali	Central Office	Y	N	Y	Y
4.	Methodological expert	IR	Kumar	Sanjeev	Central Office	Y	N	N	Y
4.	Technical Expert (TA1.2, TA3.1)	IR	Guleria	Shifali	Central Office	Y	N	Y	Y
5.	Local expert	EI	Njeri	Virginia	Central Office	Y	N	Y	Y

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	Gautam	Ashok	Central office
2.	Expert (TA1.2 and TA3.1) to TR	IR	Gautam	Ashok	Central office
3.	Approver	IR	Singh	Kaviraj	Central office

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

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Erroneous transfer of information from documented records (sales receipt, carbon transfer form etc.) to credit tracker platform	Low	POs contracted by CME enter the details in credit tracker platform at the time of installation. POs also conduct an internal check to verify the accuracy of data entry.	On a sampling basis, the records are checked with the information from the credit tracker platform and substantiated by questions asked during the remote surveys of end-users. The familiarity of PO representatives with the tracker platform is also checked.
2.	Erroneous consideration of technical specifications of CEPs.	Low	The technical specifications are provided by the manufacturer	Technical specifications of each CEP model are checked against the document issued by the manufacturer.
3.	Observational error by baseline survey staff of CME/CPA implementer and monitoring staff during	Med	An erroneous entry while recording the data at the time of product distribution and monitoring can lead to	If the aggregated materiality threshold stays within the prescribed materiality threshold, no additional effort is

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	monitoring surveys while recording the responses of users.		overestimation of calculated CERs. If there are discrepancies, they are to be dealt with as per the materiality guidelines. However, since training has been provided to members of CME and POs for baseline recording, risk of error is not very high.	required. However, if the aggregated materiality threshold is above the prescribed threshold, additional samples are to be inspected. If additional sampling is not able to reduce the materiality threshold to a reasonable level of assurance, the survey result for that parameter is to be discarded.
4.	Calculation and referencing errors in ER sheet	Low	The ER calculations are cross-checked by using two different methods of calculation and comparing the results, therefore occurrence of error is less likely. However, referencing errors within the ER sheet may occur.	All calculations and referencing will be checked by verification team with respect to applicable requirements under various documents viz., methodology, PoA DD, CPA DD etc.

C.2. Consideration of materiality in conducting the verification

In accordance with CDM VVS for PoAs, Version 02.0 the prescribed thresholds for materiality for CDM PoAs are as under;

Type of PoA	PoAs comprising large-scale CPAs			PoAs comprising only small-scale CPAs	PoAs comprising only micro-scale CPAs
Emission Reductions (tCO ₂ e)/year	500,000 or more	300,001 to 499,999	300,000 or less		
Materiality Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

The applicable materiality threshold is 5% as PoA comprises only small-scale CPAs.

Particulars / Monitoring Report	MR Version (Public)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO ₂ e) in this monitoring period	34,322 tCO ₂	29,804 tCO ₂
Applicable Threshold (%) as per CDM VVS for PoAs Version 02.0	5.0%	5.0%

Monitored Parameter (Symbol / Description)	Reporting Frequency	Number of Discrete Data (Total) Total (100%)	Sample selected for verification Sample (%)	Type of error identified	Impact on ERs	
					ERs impacted (Sample)	ERs impacted (extrapolate for population)
CPA 10341-P1-0001-CP1						
For solar CEPs						
N _{i,j}	Annual	497,524 ¹ (This is the total number of lamps distributed by POs to households)	36 (SLS details are recorded once at time of sale and all lamps are assumed to be operational for this monitoring period)	None	NA	NA
GF _y	Default	1	1 (The grid factor was cross-checked with	None	NA	NA

			the methodology AMS-III.AR)			
DB _y	Default	1	1 (default value based on selecting Option-1 for baseline)	None	NA	NA
OF _{y,i,j}	Default	1	1 (default value based on selecting Option-1 for baseline)	None	NA	NA
Lamps _{baseline}	Recorded only once	497,524 ¹	36 (Fuel used in the baseline lamp is recorded once at the time of sales)	None	NA	NA
For cook stoves						
N _{y,i,j}	Annual	298	11 (The number of operating devices was cross-checked with the annual household survey results)	None	NA	NA
Stove _{baseline}	Recorded only once	4,733	4,733 The output of credit tracker platform was checked for the information	None	NA	NA
μ _y	Annual	298	11 (Any continued use of pre-project device is cross-checked with the annual household survey monitoring result)	None	NA	NA
η _{new,i,j}	Recorded only once	9	9 (usage of linearly decreasing efficiency values were checked)	None	NA	NA
NCV _{biomass}	Default	1	1 (IPCC default from AMS-II.G)	None	NA	NA
η _{old,i,j}	Recorded only once	1	1 (methodological default value based on baseline stove used)	None	NA	NA
Life span	Recorded only once	4	4 (checked from technical specs of each model)	None	NA	NA
Date of commissioning of batch j	Recorded only once	9	9 (All values were checked for date of commissioning of batch j)	None	NA	NA
Date of commissioning of project device i	Recorded only once	4,733	4,733 (checked from internal records)	None	NA	NA

¹ A total of 497,524 solar lamps displaced kerosene lamps (baseline device) in 103,168 households in CPA 10341-P1-0001-CP1 by end of this monitoring period

N _{d,HH}	Recorded only once	4,733	4,733 (checked from internal records)	None	NA	NA
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SECTION D. Means of verification

D.1. Desk/document review

The desk review involves:

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan, the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions;

The list of documents reviewed during the verification is provided under appendix 3 of this report.

D.2. On-site inspection

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	Activity performed on-site	Site location	Date	Team member

*No site visit was conducted for this batched issuance due to outbreak of global pandemic Covid-19 and increased risk of exposure and contraction due to travel.

VVS requirement for mandatory on-site inspection:

According to CDM VVS for PoA paragraph 321/29/, it is mandatory for the DOE to conduct an on-site inspection at verification for the included CPAs if:

1. *It is the first verification for the DOE with regard to this CPA;*
2. *More than three years have elapsed since the last on-site inspection conducted for verification for the CPA;*
3. *The CPA has achieved more than 300,000 tCO₂eq of GHG emission reductions or net anthropogenic GHG removals since the last verification when an on-site inspection was conducted.*

The CPA covered in this verification is CPA 10341-P1-0001-CP1, for which on-site visit is mandatory since no on-site inspection has been conducted for past verification; this is the second verification for this CPA. However, due to the ongoing COVID-19 pandemic, DOE verification team conducted remote surveys for the CEPs and the DOE sample size is based on random sampling (discussed in Section D.4 of this report).

The Executive Board of the Clean Development Mechanism (CDM) agreed during the 110th meeting/43/, on an exceptional basis, considering the COVID-19 pandemic, to extend the period in which CDM Designated Operational Entities (DOEs) may apply alternative measures of validation/verification to mandatory on-site inspections until 31 December 2021.

Scenario applying to the PoA UN 10341 Monitoring Period 2 (Batch 1)

The CPA being verified is based in Kenya and the DOE office is based in India. The Indian Government has several restrictions on international travel/30/ due to global pandemic Covid-19. Although international travel is allowed to some extent on a case-to-case basis, the Coronavirus-induced suspension of scheduled international flights has been extended till 31/07/2021 by Directorate General of Civil Aviation (DGCA) /32/.

The DOE also launched Interim Travel Policy in response to Covid-19, according to which ESPL continues to discourage all domestic and international travel, in accordance with WHO Coronavirus disease (COVID-19) travel advice. Employees are encouraged to consider personal health while making travel plans considering

the conditions required for returning to work after travelling. In case on-site visit is conducted, the interim travel policy requires auditors to undergo 14 days of home quarantine in case of international travel.

It was clarified by the CME that the reason for not being able to postpone the mandatory site visit is the CER commitments (ERPA) signed with the CER buyers, which cannot be delayed. A copy of the agreement is shared by CME which defines the issuance schedule of the PoA/31/. As per the agreement, the issuance for this monitoring period is expected by September 2021. For the CME to be able to generate revenue from this batch, requesting the issuance is needed to be processed promptly such that all stages of issuance request are completed by the due date. The CME relies upon the CER revenue generated from these issuances for the working capital of the project.

Therefore, for reasons provided above, and in line with UN EB guidelines, the verification team conducted the verification for this batch using alternative means as defined in the CDM VVS-PoA, ver. 2.0/1/.

DOE verification team applied standard auditing techniques while verifying the PoA verification, as discussed below.

Alternative means used by DOE:

Alternative means used by DOE for purpose of inspection and verification of project details are listed below:

1. Telephonic interviews with end-users. 11 end-users each were picked randomly for each technology from the project database, with whom remote surveys were conducted. The sampling approach used by DOE is discussed elaborately in section D.4 below.
2. Remote interviews (telephonic calls) with the representatives of CME and partner organizations to discuss the implementation of CPA and monitoring procedures for various parameters.
3. Review of documentary evidence and supporting documents including sales receipts, monitoring surveys, technical specifications of CEPs, water quality reports, etc. Credit tracker platform screenshots were also obtained and reviewed for identification of end-users while conducting remote surveys. The entire list of documents reviewed for purpose of verification is available in Appendix 3 of this report.

These alternative methods were considered sufficient by the verification team for this request for issuance and provide the DOE verification team with enough evidence to arrive at a verification conclusion.

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Njorge	Mariam	CME representative	19/07/2021	CPA implementation	Shifali Guleria (SG) & Rahi Sahni (RS), Virginia Njeri (VN)
2.	Ayombe	Trevor	CME representative	19/07/2021	CPA implementation, monitoring system	SG & RS
3.	Maina	Susan	CME representative	19/07/2021	CPA implementation, monitoring system	SG & RS
CEP USERS						
1.	Wambui	Siphilah	ICS user	19/07/2021	DOE remote survey	SG, VN
2.	Maina	James	ICS user	19/07/2021	DOE remote survey	SG, VN
3.	Wahome	Leah	ICS user	19/07/2021	DOE remote survey	SG, VN
4.	Omondi	Joan	ICS user	19/07/2021	DOE remote survey	SG, VN
5.	Chirchir	Anne Jepkurgat	ICS user	19/07/2021	DOE remote survey	SG, VN
6.	Akhoko	Yvone	ICS user	19/07/2021	DOE remote survey	SG, VN
7.	Muganzi	Seth Avungana	ICS user	19/07/2021	DOE remote survey	SG, VN
8.	David	Susan Njeri	ICS user	19/07/2021	DOE remote survey	SG, VN
9.	Kagwiria	Millicent	ICS user	19/07/2021	DOE remote survey	SG, VN
10.	Mwangi	Hellen Wanjiru	ICS user	19/07/2021	DOE remote survey	SG, VN
11.	Ndungu	Simon	ICS user	19/07/2021	DOE remote survey	SG, VN

12.	Wafula Wamalwa	Justo	SLS user	19/07/2021	DOE remote survey	RS
13.	Kwamboka Nyangau	Jane	SLS user	19/07/2021	DOE remote survey	RS
14.	Henry Anyangu	Ambunya	SLS user	19/07/2021	DOE remote survey	RS
15.	Kahindi Kirao	Alfred	SLS user	19/07/2021	DOE remote survey	RS
16.	Kukuni	Annah	SLS user	19/07/2021	DOE remote survey	RS
17.	Buhuru Kataka	Saidi	SLS user	19/07/2021	DOE remote survey	RS
18.	Nanaeue Iemein	Rebecca	SLS user	19/07/2021	DOE remote survey	RS
19.	Gesimba	Margaret	SLS user	19/07/2021	DOE remote survey	RS
20.	Athuman	Moses	SLS user	19/07/2021	DOE remote survey	RS
21.	Joyce	Chebet	SLS user	19/07/2021	DOE remote survey	RS
22.	Kipketer Rono	Joel	SLS user	19/07/2021	DOE remote survey	RS

D.4. Sampling approach

CME's sampling approach:

For the purpose of sampling for ICS, CME has followed the CDM guidelines for Sampling and surveys for CDM project activities and programmes of activities version 4.0/27/ which is inline to the revised accepted PoA DD/4/. The CME applied random sampling approach at the CPA level for different monitoring parameters as per validated revised accepted PoA-DD/4/ and revised accepted CPA-DD/9/. 90/10 confidence precision was mainly applied by CME in the sampling for monitoring of ICSs, which is appropriate since they are doing an annual survey.

For SLSs distributed, applied methodology AMS-III.A.R version 5.0, paragraph 17 (option-1)/6/ has been applied in the CPA-DD, according to which project lamps are assumed to operate for two years after distribution to end users and emission reductions are only claimed for two years. According to para 28 of applied methodology, monitoring only involves recording of project lamp distribution data. Since data recording is only required to be conducted at the time of distribution and no-ex post monitoring surveys are required to be conducted under option-1 of applied methodology, no sampling approach is applied for solar lighting systems.

DOE's Sampling approach:

The DOE followed the following sampling approach for the solar lighting systems and improved cookstove technologies distributed in the CPA 10341-P1-0001-CP1:

Solar Lighting System:

Since monitoring by CME was not required for solar lighting systems under the applied methodological options in CPA-DD, the verification team applied a sampling approach choosing a confidence/precision of 90/30. The approach is in accordance with requirements of paragraph 26 and 27 of Standard for Sampling and surveys for CDM project activities and programmes of activities/26/. Based on observations from the remote audit, DOE decided if technology SLSs distribution and data recording is in line with the requirements of CPA-DD/9/, PoA-DD/4/ and applied methodology/6/.

The verification team determined the sample size using Raosoft website/33/, where information including total number of households with project SLSs in the CPA and desired confidence precision (90/30) was fed and a resulting sample size was obtained. The minimum number of samples required to be verified was 8. The verification team remotely surveyed a total of 11 households (3 households as part of over sampling which were added to accommodate non-responses, if any). Since all end-users were available, all samples selected for DOE sampling were surveyed.

Samples were picked randomly from the entire database. In order to ensure that the samples are randomly selected, excel random function was applied.

All lamps distributed in each sampled household were verified during the remote survey. Thus, 11 households were remotely surveyed by the verification team for each CPA, resulting in verification of total 36 lamps for CPA 10341-P1-0001-CP1.

Improved Cookstoves:

In order to meet the requirements of Standard for Sampling and surveys for CDM project activities and programmes of activities /26/, the verification team applied acceptance sampling in the verification (in accordance with para 28). The verification team selected random samples of CME's sampled records, checked the acceptability (or otherwise) of the data for each such record with CME's sampled records, and then based on the number of records where there is an agreement, determined if the CME's sample records meet the requirements.

The verification team has thus determined the sample size for acceptance sampling by evaluating the following, using guidance in the Standard 'Sampling and surveys for CDM project activities and programme of activities' /26/:

- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that can be considered acceptable. This is referred to as the AQL (Acceptable Quality Level): 0.5% was considered in this verification.
- The proportion of discrepancies between the CME's data and verification team's (field or onsite inspection results) data that would be considered unacceptable. This is the UQL (Unacceptable Quality Level): 20% was considered in this verification.
- The producer risk: 10% was considered.
- The consumer risk: 10% was considered.

Considering the above input values, a sample size of 11 was required as per Table (Sample size and acceptance number based on AQL, UQL, and producer and consumer risks) in the referred Standard /26/. Accordingly, the acceptance number (c) thus determined for the sample size is 0. A sample size of 11 meets the criteria.

The sample size thus obtained was broken down proportionally to the number of each ICS model present in the total monitored population, to ensure representativeness of the samples selected with respect to ICS model. It is also confirmed that almost all vintages of distribution are covered in the surveyed population. The number of samples selected and verified have been demonstrated in the table below:

ICS Model	Total number of monitored households	Percentage households from monitored Population	Number of samples required (rounded values)	Total number of households verified
Burn Jikokoa	164	55.03%	6	7
Jiko Bora	74	24.83%	3	2
Jiko Fresh	30	10.06%	1	1
Burnxtra Jikokoa	30	10.06%	1	1

The samples to be surveyed by assessment team were randomly selected from combined list of monitored samples using the random sample generator on Microsoft excel. The audit plan and list of samples thus obtained to be surveyed by assessment team was communicated to CME via email.

Accordingly, the verification team together has verified 22 samples collectively (11 for solar lighting systems and 11 for ICS) during the remote audit. The sampling method used is in line with Standard: Sampling and surveys for CDM project activities and programme of activities, ver. 9.0 /26/ and Guideline: Sampling and surveys for CDM project activities and programme of activities, ver. 4.0 /27/.

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
General	-	-	-
Compliance of the monitoring report with the monitoring report form	-	-	-
Remaining forward action requests from validation and/or previous verifications	-	-	-
CPAs considered for verification and covered in this report	-	-	-
Programme of activities	-	-	-
Compliance of the programme implementation with the registered PoA-DD	-	-	-
Implementation and operation of the management system	-	-	-
Post-registration changes	-	-	-
• Corrections	-	-	-
• Inclusion of a monitoring plan	-	-	-

<ul style="list-style-type: none"> Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents² 	-	-	-
<ul style="list-style-type: none"> Changes to the programme design 	-	-	-
<ul style="list-style-type: none"> Addition of CPA inclusion template 	-	-	-
<ul style="list-style-type: none"> Change of coordinating/managing entity 	-	-	-
<ul style="list-style-type: none"> Changes specific to afforestation and reforestation activities 	-	-	-
Component project activities	-	-	-
Compliance of the CPA implementation with the included CPA design document	CL#01	-	-
Post-registration changes	-	-	-
<ul style="list-style-type: none"> Temporary deviations from registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents 	-	-	-
<ul style="list-style-type: none"> Corrections 	-	CAR#01	-
<ul style="list-style-type: none"> Changes to the start date-of the crediting period 	-	-	-
<ul style="list-style-type: none"> Inclusion of a monitoring plan 	-	-	-
<ul style="list-style-type: none"> Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents 	-	-	-
<ul style="list-style-type: none"> Changes to the project design 	-	-	-
<ul style="list-style-type: none"> Changes specific to afforestation and reforestation activities 	-	-	-
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	-	-	-
Compliance of monitoring activities with the registered monitoring plan	-	-	-
<ul style="list-style-type: none"> Data and parameters fixed ex ante or at renewal of crediting period 	-	-	-
<ul style="list-style-type: none"> Data and parameters monitored 	-	CAR#02, CAR#03	-
<ul style="list-style-type: none"> Implementation of sampling plan 	CL#02	-	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals	-	-	-
<ul style="list-style-type: none"> Calculation of baseline GHG emissions or baseline net GHG removals by sinks 	-	CAR#01	-
<ul style="list-style-type: none"> Calculation of project GHG emissions or actual net GHG removals by sinks 	-	-	-
<ul style="list-style-type: none"> Calculation of leakage GHG emissions 	-	-	-
<ul style="list-style-type: none"> Summary of calculation of GHG emission reductions or net GHG removals by sinks 	-	-	-
<ul style="list-style-type: none"> Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA 	-	-	-
<ul style="list-style-type: none"> Remarks on difference from estimated value in included CPA 	-	-	-
Assessment of reported sustainable development co-benefits	-	-	-

² Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

Global stakeholder consultation	-	-	-
Others (please specify)	-	-	-
Total	02	03	00

SECTION E. Verification findings

E.1. General

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

Means of verification	The verification team has compared the final monitoring report /12/ with the applicable and latest monitoring report form, i.e., CDM-PoA-MR-FORM /13/.
Findings	None
Conclusion	The final Monitoring Report was prepared using latest correct template i.e. CDM-PoA-MR-FORM Version 04.0/13/. The verification team confirms that the monitoring report has been appropriately prepared using the applicable monitoring report form, and that all sections are completed inline to the guidelines.

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

This is the second monitoring period of the PoA. There are no remaining FARs from validation/40/,/41/ or previous verification/39/ relevant for this request for issuance.

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

Title and UNFCCC reference number of the CPA included in the PoA as of the end of this monitoring period	Is the CPA considered for this verification? (yes/no)	The date when the CPA was included	Version of the PoA-DD	Confirmation that a request for issuance including the CPA has been published for the previous monitoring period (Y/N)
MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa –CPA 01 and 10341-P1-0001-CP1	Yes	21/02/2017	Version number- 6	Yes ³
MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa – Solar Lamps & Efficient cook stoves – 10341 –CPA-0002 and 10341-P1-0002-CP1	No	05/11/2020	Version number- 6	NA (CPA not included in this RFI)
MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa – Solar Lamps & Efficient cook stoves – 10341 –CPA-0003 and 10341-P1-0003-CP1	No	05/11/2020	Version number- 6	NA (CPA not included in this RFI)

E.2. Programme of activities

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

Means of verification	The revised accepted PoA involves the promotion, distribution and sale of improved cook stoves (ICS), Solar lighting systems (SLS) and water purification systems (WPS) in Kenya and Uganda. CME has implemented the CPA through coordination with the partner organizations (POs) and further with local/channel sellers/distributors. The overall responsibility of implementation and operation is with CME (MEC), which is evident from the interviews conducted with CME and PO representatives. This is consistent with PoA DD /4/. This monitoring period includes
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³ https://cdm.unfccc.int/PoAIssuance/iss_db/poaiss535081634/view

the implementation and monitoring of 01 CPA as part of revised accepted PoA. At present, five CPAs have been included in the PoA. However, by the end of second monitoring period, only three CPAs were included, which have been listed above in section E.1.3.

The implementation of CPA (included in this request), as referenced is within the geographical boundary of the PoA DD, which constitutes the physical boundary as well.

The type of CEP (Clean Energy Product) models deployed under the CPA is verified by the following:

CPA	CEP Deployed	CEP model	PO/Implementer
10341-P1-0001-CP1	Solar Lighting System	d.light D100 d.light D100R d.light D150 d.light D30 d.light D31 d.light D330 d.light X1000 d.light X1100 d.light X2000 d.light X740 d.light X850 d.light X850 Greenlight Planet Sunking Boom Greenlight Planet Sunking HLS Greenlight Planet Sunking HLS120 Greenlight Planet Sunking HLS120 Plus Greenlight Planet Sunking Home 250 Greenlight Planet Sunking Pico Greenlight Planet Sunking Pro-2 Msolar 55 Plus Aerial Msolar 6 Orb Energy Sol-10 Orb Energy Sol-120 Orb Energy Sol-15 Orb Energy Sol-30 Orb Energy Solectric600	Equity Bank, Juhudi, and d.light

Solar lighting systems implemented under the SSC-PoA are renewable energy-based LED/CFL lighting systems. Through the introduction of LED/CFL-based lighting systems, the project activity is replacing portable fossil fuel-based lamps.

CEP Deployed	CEP model	PO/Implementer
Improved Cook Stove	1. Burn Jikokoa G3 efficient cookstove 2. Jiko Bora efficient cookstove 3. Jiko Fresh efficient cookstove 4. Burnxtra Jikokoa cookstove	Equity Bank, Juhudi

Improved Cook Stoves implemented under the SSC-PoA are energy efficient cooking stoves using charcoal as its fuel. Through the introduction of ICS, the project activity is reducing the fossil fuel consumption of each household.

Technical specification of each type of CEP models /21/,/22/ are verified with the details provided by respective CEP suppliers and found to be consistent with the

monitoring report.

As per the revised accepted PoA DD, 2 types of CEP are deployed under any CPA in either of the two combinations: ICS and Solar lamps together in one CPA or Water purification system and Solar lamps together in one CPA. The numbers of CEPs deployed under CPA has been confirmed by the monitoring database i.e. Credit Tracker Platform /16/,/24/.

The verification team has confirmed that the number of CEPs operational are under the limit as set by the CME during the CPA inclusion and based on that, the achieved emission reduction (for type III technologies) were found as follows:

CPA	Technology	Emission Reduction
10341-P1-0001-CP1	Improved cook stove	1,384 tCO _{2e}
	Solar Lighting Systems	28,420 tCO _{2e}

The verification team was able to confirm that the quantity, specifications, and target group of the CEPs are consistent with the PoA DD /4/ and the CPA DD /9/. Further, based on the review of Credit Tracker Platform /16/, and remote surveys/32/ conducted by verification assessment team during current verification, the verification team has found that:

- The CPA is implemented within the boundary of the PoA as described in the revised accepted PoA-DD /4/.
- The CME is the same as that mentioned in the revised accepted PoA-DD/4/.
- The implementation and operation of the project activity has been conducted in accordance with the description contained in the revised accepted PoA-DD/4/ and included CPA-DD/9/.
- All physical features of the CPA proposed in the included CPA-DD are in place.
- The project participants/CPA implementers have operated the CPA as per the included CPA DD.

The verification team summarizes major changes in CERs between web hosted MR and final version of MR for submission as follows:

CPA Ref No.	Monitoring Report (public) (tCO ₂)	Monitoring Report (final) (tCO ₂)
10341-P1-0001-CP1	34,322	29,804

The verification team has conducted remote surveys with 11 households with SLs and 11 with ICSs end-users during current verification assessment. It was observed that each CEP was assigned a unique household identification number. The unique identification number on each CEP, personal information of CEP owners and commissioning date of CEP was cross checked with the Credit Tracker Platform screenshots and output files available with the CME. The operation of the CEPs was confirmed through remote surveys with the owners/representatives (of CEPs). The households were asked various questions to confirm the identity of the end user, the operational status of the CEPs, baseline technologies, among others.

The emission reductions being claimed during this monitoring period are lesser than the estimated emission reductions in the revised accepted CPA-DD, as given in the table below for comparable estimated CERs in the CPA DD for the corresponding period:

CPA Ref No.	Estimated ERs (tCO ₂)	Actual ERs (tCO ₂)
10341-P1-0001-CP1	80,094	29,804

The information (including data and variables) provided in the MR is found to be in-line with the description provided in the revised accepted PoA-DD/4/.

The verification team considers the programme implementation to be in line with

	the revised accepted PoA-DD. The PoA implementation complies with the PoA-DD, applied methodologies, tools, and forms. The monitoring report was compared and verified against the description provided in the revised accepted PoA-DD and found to be correct.
Findings	No findings.
Conclusion	<ul style="list-style-type: none"> a) The verification team confirms that the physical features (technology/type of CEP) of the implementation were in accordance with the revised accepted PoA-DD. b) The actual operation is in line to CPA-DD. c) The number of installations in CPA for the type of CEPs were lower than the maximum quantity estimated in the CPA-DD. d) Information concerning data and variables was identified and assessed for the estimated quantity of ERs in the CPA DD being surpassed by actual emission reductions, where relevant.

E.2.2. Implementation and operation of the management system

Means of verification	<p>Based on the interview of CME representatives, representatives of different POs (CPA implementers) and monitoring team, it is confirmed that the CME has organized appropriate management and operational system for monitoring and reporting.</p> <p>The CME co-ordinates with respective POs to establish a marketing and lending program for CEPs. PO's staff, local distributors, technicians and other service providers involved in marketing of CEPs to concern households. The monitoring plan and procedures to identify each CEP sold has been followed by POs.</p> <p>MEC (MicroEnergy Credits Corp) is CME for the PoA and responsible for the inclusion of CPAs in the PoA. The Carbon Operation Manager of MEC is responsible for completion of the inclusion process.</p> <p>The CME maintains the user manual that specifies the process of inclusion of CPA, referred to provide the training for individuals. The Carbon Operation Manager directly reports to CEO of CME and get the carbon expert assistance during the CPA inclusion process, if required.</p> <p>In order to improve the quality of management, annual internal audits were also conducted which was confirmed by interviewing the CME and PO staff and from internal audit report/36/. The Carbon Operation Manager, CME and PO involved in the particular CPA, address the non-conformities identified during the audit. The information about the type of CEP installed under each CPA is stored in Credit Tracker Platform that is maintained by MEC (CME).</p> <p>The Credit Tracker Platform records the unique identification number, location, installation date, and usage status of each clean energy product (CEP) in CPA, helps to identify, locate and verify any or all of the CEP installations. CME has provided the tracker output file/16/ that is used to ensure that unique identification of CEPs can be tracked. This file has been verified for the number of CEP users, and to confirm if they were using it during the applicable CEP crediting period.</p> <p>The Carbon Operation Manager at the CME is responsible for QA/QC of the data, analysis and reporting into the monitoring report. For baseline survey and monitoring survey data, trained staff conducts the surveys. The staff was interviewed and training records/17/,/18/ were checked to ensure that they were trained for conducting the surveys. The CME is responsible for QA/QC of the data, analysis and reporting into the monitoring report.</p> <p>Inline to the registered monitoring plan, CME conducts an annual monitoring for ICS. According to applied methodology AMS.II.G version 8.0, for monitored parameters $N_{y,i,j}$ and μ_y, monitoring shall be conducted at least once every two years (biennial). CME has conservatively monitored these parameters annually, following methodology guidelines to achieve 90% confidence interval and a 10% margin of error for these sampled parameters.</p>
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	<p>In case of solar lighting systems, monitoring surveys are not required to be conducted since the crediting period of all devices is 2 years by default, which is in line with revised accepted CPA-DD and applied methodology AMS.III.AR version 5.0 (para 17).</p> <p>Original copies of sales receipts/invoices/21/ and loan agreements/20/,and completed survey forms (for ICS)/15/ are retained by the respective POs/CPA implementers. The organizational structure and roles and responsibilities for monitoring were in line with the CPA specific requirements, and this was confirmed during the remote audit conducted, and the structure was considered appropriate.</p>
Findings	No findings.
Conclusion	The verification team assessed the management systems in place to implement the monitoring of the PoA. This included the roles and responsibilities, data collection, transfer and aggregation procedures, data storage and archiving for the monitoring system. The roles and responsibilities, data collection transfer and aggregation procedures, data storage and archiving for the monitoring system have been provided in the MR /12/. The verification team confirms that the monitoring management system of the PoA is in place with the responsibilities properly identified and established.

E.2.3. Post-registration changes

E.2.3.1. Corrections

The following approved corrections were made to the PoA (including the generic CPA(s)) before this monitoring period–

Several editorial changes were introduced to the PoA-DD.

This version of PoA-DD (ver. 4) is effectively approved by CDM-EB on 10/11/2019 (PRC Reference number “PRC-10341-001”)/5/

The following approved corrections were made to the PoA (including the generic CPA(s)) applicable from this monitoring period–

Several editorial changes that have been introduced due to small errors in previous versions.

This version of PoA-DD (ver. 6) is effectively approved by CDM-EB on 09/05/2021 (PRC Reference number “PRC-10341-004”)/5/

There are no new corrections proposed in PoA-DD under this request for issuance.

E.2.3.2. Inclusion of a monitoring plan

Not Applicable.

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

The following approved permanent changes were made to the PoA before this monitoring period–

Inclusion of alternate approach as an option to calculate cookstove B_{old} value at PoA level by using the default value provided in methodology AMS-II.G.

This version of PoA-DD (ver. 4) is effectively approved by CDM-EB on 10/11/2019 (PRC Reference number “PRC-10341-001”)/5/

The following approved permanent changes were made to the PoA applicable from this monitoring period–

1. Clarification on efficiency degradation approach for determination of stove efficiency for ICS technology.
2. Addition of monitoring parameter- Lifespan

This version of PoA-DD (ver. 6) is effectively approved by CDM-EB on 09/05/2021 (PRC Reference number “PRC-10341-004”)/5/

E.2.3.4. Changes to the programme design

The following approved design changes were made to the PoA before this monitoring period–

1. Addition of a new host country in the registered PoA, Uganda, thus resulting in expansion of the project boundary.
2. Addition of fNRB and Byold parameters for Uganda to enable addition of CPAs from Uganda.
3. Inclusion of provision to use either option-1 or option-2 from methodology AMS-III.AR paras 17 and 18, based on lamp technologies to be included in the CPA.

This version of PoA-DD (ver. 4) is approved by CDM-EB on 10/11/2019 (PRC Reference number “PRC-10341-001”)/5/

E.2.3.5. Addition of CPA inclusion template

Not Applicable

E.2.3.6. Change of coordination/managing entity

Not Applicable

E.2.3.7. Changes specific to afforestation and reforestation activities

Not Applicable

E.3. Component project activities**E.3.1. Compliance of the CPA implementation with the included CPA design document**

Means of verification	<p>The reporting for this issuance has been done technology-wise, thus section E.3 shall be dealing with distribution of solar CEPs and its compliance with registered PoA-DD and applicable Standard.</p> <p>The CPA 10341-P1-0001-CP1 described in this section targets the promotion, distribution and sale of different models of solar lighting systems implemented in this PoA.</p> <p>MicroEnergy Credits Corp is the Coordinating and Managing Entity (CME) for the implementation of CPA. The CME coordinates and manages each Partner Organization (PO) and assists them in implementing each element of the monitoring plan.</p> <p><u>Solar Lighting Systems</u></p> <table border="1"> <tr> <td>CPA Ref. #</td><td>10341-P1-0001-CP1</td></tr> <tr> <td>Inclusion date</td><td>21/02/2017</td></tr> <tr> <td>Location</td><td>Kenya</td></tr> <tr> <td>CEP Type</td><td>Solar lighting system</td></tr> <tr> <td>CEP Model⁴</td><td> d.light D100 d.light D100R d.light D150 d.light D30 d.light D31 d.light D330 d.light X1000 d.light X1100 d.light X2000 d.light X740 d.light X850 d.light X850 Greenlight Planet Sunking Boom Greenlight Planet Sunking HLS Greenlight Planet Sunking HLS120 Greenlight Planet Sunking HLS120 Plus Greenlight Planet Sunking Home 250 </td></tr> </table>	CPA Ref. #	10341-P1-0001-CP1	Inclusion date	21/02/2017	Location	Kenya	CEP Type	Solar lighting system	CEP Model ⁴	d.light D100 d.light D100R d.light D150 d.light D30 d.light D31 d.light D330 d.light X1000 d.light X1100 d.light X2000 d.light X740 d.light X850 d.light X850 Greenlight Planet Sunking Boom Greenlight Planet Sunking HLS Greenlight Planet Sunking HLS120 Greenlight Planet Sunking HLS120 Plus Greenlight Planet Sunking Home 250
CPA Ref. #	10341-P1-0001-CP1										
Inclusion date	21/02/2017										
Location	Kenya										
CEP Type	Solar lighting system										
CEP Model ⁴	d.light D100 d.light D100R d.light D150 d.light D30 d.light D31 d.light D330 d.light X1000 d.light X1100 d.light X2000 d.light X740 d.light X850 d.light X850 Greenlight Planet Sunking Boom Greenlight Planet Sunking HLS Greenlight Planet Sunking HLS120 Greenlight Planet Sunking HLS120 Plus Greenlight Planet Sunking Home 250										

⁴ The list of SLS models only consists of models that were distributed or operational during this monitoring period.

		Greenlight Planet Sunking Pico Greenlight Planet Sunking Pro-2 Msolar 55 Plus Aerial Msolar 6 Orb Energy Sol-10 Orb Energy Sol-120 Orb Energy Sol-15 Orb Energy Sol-30 Orb Energy Solectric600
	CPA Implementer/ PO	Equity Bank, Juhudi and d.light
	Maximum Quantity of Solar lamps in operation (at any point during the current monitoring period)	497,524
	Maximum Estimated Qty of Solar Lamps in operation (as per CPA-DD for each crediting year)	650,000 at any point during the crediting period.
	Estimated CERs (comparable period)	46,037 tCO _{2e}
	Actual CERs from the CEP Type	28,420 tCO _{2e}
	<p>Technical specifications for all solar lighting system models /22/ were checked by assessment team against the manufacturer specifications and additional third-party test results to confirm that all models distributed under this CPA are in line with applied methodology requirements/6/, as listed below.</p> <ol style="list-style-type: none"> Rated average operational life of at least 5,000 hours Minimum one-year warranty (meeting the warranty requirements of the lighting global minimum quality standards) Minimum luminous flux of 25 lumens or 50 lux over an area equal or greater than 0.1m² when suspended at 0.75 meters DBT greater than or equal to 4 hours Details regarding type of charge controller, solar run time, battery type and capacity etc. in line with CPA-DD and applied methodology requirements Physical protection against environmental factors (eg rain, heat, insect ingress) <p>The solar lighting systems are sold to end users and the sales data is collected by means of loan documents /20/ at the time of sale to the end user. The technical specifications of solar light model were verified through the specifications provided by technology suppliers /22/ and found to be consistent with the monitoring report for the current verification. For remote surveys, the end users were asked various questions, to confirm the distribution of said models. It has been checked by the verification team that the verified CPA implementation is below its annual small scale threshold of 60,000 tCO_{2e}.</p>	
Findings	CL#01 was raised and resolved.	
Conclusion	<ol style="list-style-type: none"> The verification team confirmed through remote audit and review of the supporting documentation that physical features of the CPA have been implemented in accordance with the revised accepted CPA-DD. No specific monitoring equipment had to be installed according to the monitoring plan. The CPA was also found to be completely operational in line with the CPA-DD. The information provided in the relevant sections of the monitoring report appropriately described the implementation status of the PoA. Assessment team also confirms that monitoring period is within the CPA crediting period. 	

E.3.2. Post-registration changes

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

Not Applicable

E.3.2.2. Corrections

The following approved corrections were made to the PoA (including the generic CPA(s)) applicable from this monitoring period for the CPA 10341-P1-0001-CP1:

Editorial changes that have been done either due to small errors in previous versions or to bring better clarity to statements

CPA ref number	PRC ref. number	Date of approval
10341-P1-0001-CP1	PRC-10341-005 /10/ PRC-10341-002 /10/	11/06/2021 (effective approval on 10/06/2021) 07/08/2020 (effective approval on 06/08/2020)

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

Not Applicable.

E.3.2.4. Inclusion of a monitoring plan

Not Applicable.

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

The following approved permanent changes were made to the CPA applicable from this monitoring period for CPA 10341-P1-0001-CP1

1. Clarification on efficiency degradation approach for determination of stove efficiency for ICS technology.
2. Addition of monitoring parameter- Lifespan

CPA ref number	PRC ref. number	Date of approval
10341-P1-0001CP1	PRC-10341-005 /10/	11/06/2021 (effective approval on 10/06/2021)

No new changes have been proposed with this request for issuance.

E.3.2.6. Changes to the project design

A few design changes were made to the CPA-DD in previously approved PRC, approved prior to this monitoring period:

1. Update in number of solar lamps to be implemented in the CPA.
2. Technical specification of the product models are updated with additional information to comply with Methodology AMS III.A.R Version 05.0

CPA ref number	PRC ref. number	Date of approval
10341-P1-0001-CP1	PRC-10341-002 /10/	07/08/2020 (effective approval on 06/08/2020)

No new changes have been proposed with this request for issuance.

E.3.2.7. Changes specific to afforestation and reforestation activities

Not Applicable.

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

Means of verification	The monitoring plan as contained in the CPA-DD was reviewed against the monitoring requirements of the applied methodology AMS III.AR version 5 /6/ as well as PoA DD /4/ with reference to the technology involved. Based on this review, it was found the monitoring plan contained in the CPA DD includes all the required parameters to be monitored in the context of the CPA design and description and allows proper determination of emission reductions in accordance with PoA DD /4/ and applied methodology AMS III.AR version 5 /6/.
Findings	No findings were raised.
Conclusion	The monitoring plan is in accordance with the approved methodology, AMS III.AR version 5 /6/, that is included in the CPA-DD.

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****Default annual baseline emission factor for the project lamp, DV, tCO_{2e}**

Means of verification	The value of this parameter considered for the verification is mentioned below:
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	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	0.092	CPA-DD /9/
Findings	No findings were raised.		
Conclusion	The values in the Monitoring Report /12/ and corresponding Emission Reduction Spreadsheet /14/ are consistent with the revised accepted PoA-DD /4/ and CPA-DD /9/. The applied values are correct and justified.		

E.3.4.2. Data and parameters monitored

Number of lights distributed to end users, i, type, j (N_{i,j}), Number of lights

Means of verification	Criteria/Requirements	Assessment/Observation			
	Measuring /Reading /Recording frequency	Annual			
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes			
	Monitoring equipment	Not applicable			
	Calibration frequency /interval:	Not applicable			
	How were the values in the monitoring report verified?	<p>The values reported in the final MR /12/ and ER sheet were verified through the output files of MEC Credit tracker platform provided by the CME.</p> <p>During the current monitoring period, CERs from a total of 497,524 devices distributed in 103,168 households have been calculated. Each lamp is considered operational for only the first two years of its crediting period, which is found to be in line with CPA-DD and applied methodology AMS-III.AR version 5.0 para 17.</p> <p>The verified value for the highest number of solar lighting systems operational at any point during this monitoring period is provided in table below:</p> <table><tr><td>CPA</td><td>Max. number of solar lamps deployed</td></tr><tr><td>10341-P1-0001-CP1</td><td>497,524</td></tr></table> <p>It was noted that any point during the monitoring period, total number of operational CEPs was not higher than the maximum count of estimated operational solar lamps provided in revised accepted CPA-DD for any crediting year.</p> <p>The verification team has verified the SLS models distributed in the current monitoring period and found those to be consistent with the technical specifications provided by respective product suppliers/22/ and the PoA-DD requirements/4/. During the remote audit, end-users were remotely surveyed to ask about the name of model distributed in their household and where they could not read, asked about physical features of the device (colour of the device, if the light is wall mounted or hand held; number of lamps constituted in one lighting system etc.). The information thus obtained was cross-checked against technical specifications of the device and it was confirmed if it matched with those.</p> <p>Specific to distribution of solar CEPs, each household was found</p>	CPA	Max. number of solar lamps deployed	10341-P1-0001-CP1
CPA	Max. number of solar lamps deployed				
10341-P1-0001-CP1	497,524				

		to be given a PO specific unique identifiers, also specific to the corresponding partner organizations, as listed below:			
		CPA Implementer	Unique Identification - 1	Unique Identification - 2	Unique identification - 3
		d.light	Purchaser name (Customer name)	Product unique identifier number (Product serial number)	GPS location of the nearest branch of PO which services the household
		Juhudi	Purchaser name (Customer name)	National ID number	Bank ID number
		Equity	Purchaser name (Customer name)	GPS location of the nearest branch of PO which services the household	Bank ID number
		These unique identifier in line with footnote 3 of PoA-DD are used to establish that double counting doesn't occur, and all devices are traceable to the households those were distributed to. The verification team checked the uniqueness of solar CEPs across the CPA from the database using Microsoft Excel based tools (eg. Conditional formatting to identify duplicate entries). All entries were found to be unique.			
	If applicable, has the reported data been cross-checked with other available data?	Yes. The information provided in the CPA credit tracker Database /16/ was verified randomly with the sales receipt and loan document /20/ and through remote audit of surveyed SLS end-users. The data was found consistently recorded.			
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Solar light systems installation information was verified as maintained in the MEC tracker system/16/ that records the address of the households. It can be confirmed that management is ensuring the correct transfer of data and reporting of emission reductions and the necessary QA/QC processes are in place.			
Findings	No findings were raised.				
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology.				

Grid factor in year y (GFy), Fraction

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Not applicable (Default value used)
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Not applicable (Default value used)
	Monitoring equipment	Not applicable

	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	<p>The values reported in the final MR were verified from the methodology AMS-III.AR, ver. 5.0/6/.</p> <p>As per the applied methodology AMS-III.AR version 5.0 para 21, Grid Factor in year y is equal to 1.0 when charging option defined in paragraph 3(a) is used. Para 3(a) of methodology is applicable to the current CPA i.e., the distributed project lamps are charged by a renewable energy system (photovoltaic system). It is also demonstrated at the time of CPA-inclusion and is cross checked during current verification from project database and remote audit that the replaced lamps were kerosene lamps in line with para 8(a) of applied methodology and therefore it is assumed that all baseline emissions are from the consumption of fossil fuel (in this case, kerosene) for lighting inline with footnote 8 of applied methodology.</p> <p>Therefore, for the current monitoring period default value 1.0 is considered for this parameter.</p>
	If applicable, has the reported data been cross-checked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	It can be confirmed that management is ensuring the correct transfer of data and reporting of emission reductions and the necessary QA/QC processes are in place.
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology.	

Dynamic baseline factor in year y (DBy), Fraction

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Not applicable (Default value used)
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Not applicable (Default value used)
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	<p>The values reported in the final MR were verified through the methodology AMS-III.AR, ver. 5.0/6/.</p> <p>According to applied methodology AMS-III.AR, ver. 5.0 under para 21 and parameter table 5, dynamic baseline factor can be calculated as "default of 1.0 in the absence of relevant information" This methodological choice is confirmed at the time of inclusion of CPA as the applicable approach to determine parameter DBy.</p> <p>Therefore, for the current monitoring period default value</p>

		1.0 is considered for this parameter.
	If applicable, has the reported data been cross-checked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	It can be confirmed that management is ensuring the correct transfer of data and reporting of emission reductions and the necessary QA/QC processes are in place.
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology.	

The percentage of project lamps distributed to end users that are operating and in service ($OF_{y,i,j}$), Fraction

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Not applicable (Default value used)
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Not applicable (Default value used)
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	<p>The value reported in the final MR was verified through the methodology AMS-III.AR, ver. 5.0/6/.</p> <p>According to applied methodology para 17, if option-1 is applied, then “project lamps are assumed to operate for two years after distribution to end-users”. This is also cross verified from para 26 of applied methodology according to which, percentage of project lamps distributed to end users that are operating and in service are assumed to be equal to 100 per cent for years 1, 2 and 3.</p> <p>Therefore, since CME has chosen option-1 from AMS-III.AR para 17 in included CPA-DD, for the current monitoring period the percentage of project lamps distributed to end users that are operating and in service is acceptable as 100%.</p> <p>It is noted that this parameter is notated as $f_{i,j}$ in CPA-DD and PoA-DD, however, in MR, it has been notated as $OF_{y,i,j}$ to keep it in line with applied methodology AMS.III.AR version 5.</p>
	If applicable, has the reported data been cross-checked with other available data?	Not applicable

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	It can be confirmed that management is ensuring the correct transfer of data and reporting of emission reductions and the necessary QA/QC processes are in place.
Findings	No findings.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology.	

This parameter would capture the fuel type for each baseline lamp that is getting replaced with the project lamps, and would ensure that project lamps are only distributed to the households which are using fossil fuel for lighting in the baseline lamps (Lamps_{baseline}), Fuel type consumed in the lamps

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Once at the time of sale of lamps
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The information reported in the final MR/12/ and ER sheet/14/ was verified from the MEC tracker platform/16/. The assessment team has verified the tracker output file/16/ provided by CME that includes consolidated list of all CEP sales made under the CPA 10341-P1-0001-CP1 and confirms that all users were using kerosene as their baseline lamp fuel. Further some sample baseline survey forms/38/ were checked, which recorded the baseline device in use at the time of SLS distribution. All forms reported usage of kerosene lamps prior to the installation of SLSs.
	If applicable, has the reported data been cross-checked with other available data?	The baseline device and fuel used were further checked through questions related to 'baseline lighting device and the fuel used' during the DOE remote audit conducted for 11 households picked for DOE remote audit. All surveyed households reported to have used kerosene lamps as baseline device.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, it can be confirmed that management is ensuring the correct transfer of data and reporting of emission reductions and the necessary QA/QC processes are in place.
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology.	

E.3.4.3. Implementation of sampling plan

Means of verification	Not applicable, as sampling is not required for the parameters based on methodology AMS-III.AR, ver. 5.0 for this monitoring period. According to the
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	<p>applied methodology para 17 option-1 “Project lamps are assumed to operate for two years after distribution to end-users. Therefore, under this option, emission reductions may only be claimed for two years”.</p> <p>Since CPA-DD has already defined option-1 discussed above as the chosen approach for determining lamp effective useful life, no monitoring is required to be conducted for solar lamps distributed under this CPA. The parameter values used were either default, based on methodological choices or recorded at the time of distribution. These monitored parameters and sources of their values are provided below:</p> <table><tr><th>Parameter</th><th>Parameter Description</th><th>Source</th></tr><tr><td>N_{i,j}</td><td>Number of lights distributed to end users, i, type, j</td><td>Recorded at the time of sale of lamps</td></tr><tr><td>GF_y</td><td>Grid factor in year y</td><td>Default value from AMS.III.AR (para 21)</td></tr><tr><td>DB_y</td><td>Dynamic baseline factor in year y</td><td>Default value from AMS.III.AR (para 21 and parameter table 5)</td></tr><tr><td>OF_{y,i,j}</td><td>The percentage of project lamps distributed to end users that are operating and in service</td><td>Based on methodological choice from AMS-III.AR (option-1 from para 17).</td></tr><tr><td>Lamps_{baseline}</td><td>This parameter would capture the fuel type for each baseline lamp that is getting replaced with the project lamps, and would ensure that project lamps are only distributed to the households which are using fossil fuel for lighting in the baseline lamps</td><td>Recorded by CME/ PO at the time of sale of lamps.</td></tr></table>	Parameter	Parameter Description	Source	N _{i,j}	Number of lights distributed to end users, i, type, j	Recorded at the time of sale of lamps	GF _y	Grid factor in year y	Default value from AMS.III.AR (para 21)	DB _y	Dynamic baseline factor in year y	Default value from AMS.III.AR (para 21 and parameter table 5)	OF _{y,i,j}	The percentage of project lamps distributed to end users that are operating and in service	Based on methodological choice from AMS-III.AR (option-1 from para 17).	Lamps _{baseline}	This parameter would capture the fuel type for each baseline lamp that is getting replaced with the project lamps, and would ensure that project lamps are only distributed to the households which are using fossil fuel for lighting in the baseline lamps	Recorded by CME/ PO at the time of sale of lamps.
Parameter	Parameter Description	Source																	
N _{i,j}	Number of lights distributed to end users, i, type, j	Recorded at the time of sale of lamps																	
GF _y	Grid factor in year y	Default value from AMS.III.AR (para 21)																	
DB _y	Dynamic baseline factor in year y	Default value from AMS.III.AR (para 21 and parameter table 5)																	
OF _{y,i,j}	The percentage of project lamps distributed to end users that are operating and in service	Based on methodological choice from AMS-III.AR (option-1 from para 17).																	
Lamps _{baseline}	This parameter would capture the fuel type for each baseline lamp that is getting replaced with the project lamps, and would ensure that project lamps are only distributed to the households which are using fossil fuel for lighting in the baseline lamps	Recorded by CME/ PO at the time of sale of lamps.																	
Findings	No findings.																		
Conclusion	The sampling was not required, since default values or information recorded at the time of installation was used. This is acceptable, based on review of revised accepted CPA-DD/9/. and methodology AMS-III.AR, ver. 5.0 /6/.																		

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

Means of verification	No monitoring equipment was required to monitor the parameters, which was verified through the registered monitoring plan as outlined in the CPA-DD/9/ and revised accepted PoA-DD/4/.
Findings	No findings.
Conclusion	The verification team has confirmed that no monitoring equipment has been used by the CME. Therefore, there was no requirement of calibration. This was in accordance with the accepted monitoring plan and the applied monitoring methodology.

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>The verification team verified that</p> <ol style="list-style-type: none"> A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under Section E.3.4 of this report. The information provided in the monitoring report was cross checked with other sources, wherever appropriate and available, and such information is also included under Section E.3.4 of this report. The calculations of baseline emissions as presented in the corresponding ER calculations sheet of final Monitoring Report was checked and found to be consistent with the formulae and methods described in the registered monitoring plan of each relevant CPA-DD, PoA-DD and the applied methodology. All assumptions used in the emission calculations were found appropriate and
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- therefore, justified
- e) Appropriate emission factors, IPCC default factors and other reference values have been correctly applied. This has also been elaborated under Section E.3.4 of this report.
 - f) No standardized baseline was prescribed in the PoA-DD and therefore, it has not been applied.
 - g) There is no pro-rate approach applied for the current monitoring period as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol.

The following equations were used to determine the baseline emissions as provided in the monitoring report /12/ and applied in the corresponding ER calculations sheets /14/. The expressions used were found consistent with the revised PoA DD, CPA DD and the applied methodology AMS-III.AR, version 5 /6/:

$$DV = FUR \times O \times U \times EF \div 1000 \times LF \times n \times NTG$$

Where:

- DV = Lamp Emission Factor (default is 0.092 t CO₂e per project lamp)
- FUR = Fuel use rate (0.03 liters/hour)
- O = Utilization rate (3.5 hours/day)
- U = Annual utilization (365 days/year)
- EF = Fuel emissions factor (2.4 kgCO₂/liter)
- LF = Leakage factor (1.0)
- N = Number of fuel-based lamps replaced per project lamp (1.0)
- NTG = Net-to-gross adjustment factor (1.0)

Baseline emissions are calculated per below equation:

$$BE_y = DV \times GF_y \times DB_y$$

Where:

- BE_y = Baseline emissions per project lamp in year y (t CO₂e)
- GF_y = Grid Factor in year y,
 - Equal to 1.0 when charging option defined in paragraph 3(a) of the methodology is used; which is indeed the case for this CPA, as the CPA uses charging option of Solar PV
- DB = Dynamic Baseline Factor (change in baseline fuel, fuel use rate, and/or utilization during crediting period) in year y. Calculated as either:
 - Option 1: default of 1.0 in the absence of relevant information;
 - Option 2: value of $1.0 + FFg$ where FFg is the documented national growth rate of kerosene fuel use in lighting from the preceding years (use the most recent available data for a three or five years average (fraction))

CPA chose to apply option 1: hence default of 1.0 is considered

Findings	CAR#01 was raised and resolved
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Conclusion	<p>The verification team confirms that:</p> <ul style="list-style-type: none"> a) The complete data was available and is duly reported b) As indicated above, the description with regard to cross-check of reported data is included under the respective parameter (refer Section E.3.4 of this report). c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals were followed. d) Appropriate emission factors, IPCC default factors and other reference values were correctly applied. e) There is no pro-rate approach was applied in the current monitoring period as the entire monitoring period falls into a period that is after the end of the first commitment period of Kyoto Protocol.
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E.3.6.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	The PoA-DD, CPA-DD do not prescribe any project emissions to be considered. In accordance with applied methodology AMS-III.AR para 23(a), no project emissions are considered from the CPA since charging mechanism for all lamps distributed under this CPA is renewable energy i.e. solar energy. The remote audit and project design also did not reveal any potential source to be considered in this regard.
Findings	No findings.
Conclusion	No project emissions were required to be calculated.

E.3.6.3. Calculation of leakage GHG emissions

Means of verification	The PoA-DD, CPA-DD and applied monitoring methodology do not prescribe any leakage emissions to be considered. The remote audit and project design also did not reveal any potential source to be considered in this regard. However, the leakage factor (LF, assumed 1.0 as default value in applied methodology) has been accounted in baseline calculations under default value of parameter DV (Lamp Emission Factor).
Findings	No findings.
Conclusion	No additional leakage were required in accordance with the methodology AMS-III.AR, version 5 /6/.

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

Means of verification	<p>As discussed in the above sections, the entire emission reductions from the PoA were based on baseline emissions. The calculations presented in this regard in the final monitoring report and corresponding ER calculations sheet were found appropriate and comply with the provisions prescribed in the registered monitoring plan of CPA-DD, PoA-DD and applied methodology. Total emission reductions achieved in the current monitoring period by all types of lamps distributed in the relevant CPA is calculated using the following expressions:</p> $ER_y = \sum_{i,j} N_{i,j} \times (BE_{y,i} - PE_{y,i,j}) \times (OF_{y,i,j})$ <p> ER_y = Emission reductions in year y (t CO₂e) $N_{i,j}$ = Number of project lamps distributed to end users of type i with charging method j $OF_{y,i,j}$ = Percentage of project lamps distributed to end users that are operating and in service in year y, for each lamp type i and charging method j. Assumed to be equal to 100 per cent for years 1, 2 and 3, and equal to the value determined in paragraph 30, for years 4, 5, 6 and 7 </p> <p>Since the solar lamps were distributed in a phased manner during the monitoring period, the number of crediting days vary for each device, depending on the installation date. The start of the crediting of CERs for each device is either from start date of the monitoring period or from the date of its installation, whichever is later. The last day of crediting of ERs for any device is either last date of monitoring period or end date of two years period from installation of the device, whichever is earlier.</p> <p>The calculation applied in ER sheet was checked to ensure that none of the solar lamps is credited for more than 2 years.</p>
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	<p>The equation provided in applied methodology calculates the emission reductions for the entire crediting year by accounting for total number of installed devices operational in a year. However, due to the number of operational solar devices being a different number on each day of the year (as explained above and evident from ER sheet) as a result of phased distribution of solar lamps, calculating emission reductions for a year as a whole would not account for the specific number of crediting days for devices that are phased in during that year.</p> <p>Therefore, CME has applied an approach to calculate total emission reductions for all devices operational on each day of the entire monitoring period separately and then summing up the values to obtain emission reductions for the entire monitoring period. Under this approach, first baseline emissions are calculated for a single day in line with calculation method described in section E.3.6.1. After accounting for project emissions $PE_{y,i,j}$ (which are considered as 'zero' for reasons described in section E.3.6.2) and percentage of operating project lamps $OF_{y,i,j}$ (considered 100% since option-1 in para 17 of applied methodology which assumes all project lamps to be operational for 2 years from installation is chosen in CPA-DD), the resulting emissions reductions are multiplied with number of solar lamps operational on each day of monitoring period. The calculation approach was reviewed by the verification team and found to be appropriate.</p> <p>This approach also ensures that total emission reductions on any day of the monitoring period can be tracked and it could be ensured that at no point during the monitoring period SSC category Type-III technology threshold of 60,000 tCO_{2e} emission reductions is breached.</p> <p>Cross-Check approach- To ascertain the accuracy of emission reduction calculations, a cross-check approach is also applied in ER sheet in which emission reduction is calculated for each SLS individually. Under this approach, baseline emissions are calculated for each lamp for the number of days that it was crediting throughout the monitoring period. A summed-up value is derived from individual calculation and matched with the calculation from first approach.</p> <p>Both the approaches as explained above were found to be comprehensive and in compliance with requirements of registered design documentation and applied methodology.</p>
Findings	No findings.
Conclusion	<p>The verification team confirms that</p> <ol style="list-style-type: none"> The complete data was available and is duly reported; As indicated above, the description with regard to cross-check of reported data is included under respective parameter; Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed; Appropriate emission factors, IPCC default factors and other reference values were correctly applied. There is no pro-rate approach (CDM VVS-PoA Version 02 /1/) applied in the current monitoring period as entire monitoring period falls into a period that is after the end of first commitment period of Kyoto Protocol. <p>The total number of ERs achieved during the current monitoring period from SLS distribution are 28,420 tCO_{2e}.</p>

Title and UNFCCC reference number of the CPA	Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e)	Project emissions or actual net GHG removals by sinks (tCO ₂ e)	Leakage (tCO ₂ e)	GHG emission reductions or net GHG removals by sinks (tCO ₂ e)		
				Amount achieved before 1 January 2013	Amount achieved from 1 January 2013	Amount achieved in the entire monitoring period
MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa –CPA 01 and 10341-P1-0001-CP1 (For SLS only)	28,420	0	0	0	28,420	28,420
Total (only solar CEP)	28,420	0	0	0	28,420	28,420

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

Means of verification	As verified and evident from the final Monitoring Report /12/ and corresponding ER calculations sheet /14/, the actual emission reductions achieved by the CPA that are included in the current monitoring period were found less than the estimated quantity in the CPA-DD for comparable period. The quantitative details of actual values of achieved ERs for the CPA and value estimated in the specific CPA-DD is presented in the table below.				
	<table><tr><th>Estimated ERs (comparable period) (tCO₂e)</th><th>Actual ERs in MR (tCO₂e)</th></tr><tr><td>46,037 (solar technology only)</td><td>28,420</td></tr></table>	Estimated ERs (comparable period) (tCO ₂ e)	Actual ERs in MR (tCO ₂ e)	46,037 (solar technology only)	28,420
	Estimated ERs (comparable period) (tCO ₂ e)	Actual ERs in MR (tCO ₂ e)			
	46,037 (solar technology only)	28,420			
	The scale (number of ERs) of Solar Lighting Systems distributed is below the threshold of SSC category Type III (60,000 tCO ₂ e) for each year.				
The verification team found that the actual implementation of the CPA was within the description of the specific CPA-DD and therefore, acceptable.					
The verification team found that the actual ERs achieved during this issuance are lower than the ERs estimated for the Solar Lighting Systems.					
	Considering there is no increase in ERs, no further verification effort was put in.				
Findings	No findings.				
Conclusion	The actual emission reductions achieved for the CPA included are lower than the estimated quantity of ERs in the CPA-DD. The small-scale threshold is maintained. Accordingly, it was accepted by the verification team.				

Title and UNFCCC reference number of the CPA	Actual values achieved by the CPAs during this monitoring period	Value estimated in ex ante calculation in the included CPA-DD(s)
MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa –CPA 01 and 10341-P1-0001-CP1 (For SLS only)	28,420	46,037
Total	28,420	46,037

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

Means of verification	The achieved emission reductions were compared with the ex-ante estimated numbers for the CPA (10341-P1-0001-CP1), and it was found that the ERs achieved are lower than estimated ERs for this monitoring period.
Findings	No findings.
Conclusion	The calculation of emission reduction was found to be appropriate and inline to the methodological requirements. The difference from estimated value was found acceptable in accordance with the CPA-DD.

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

Means of verification	The CME has not requested DOE to verify sustainable development co-benefits.
Findings	None
Conclusion	Not applicable.

E.3.8. Global stakeholder consultation

Means of verification	Not applicable.
Findings	None
Conclusion	Not applicable.

E.4. Component project activities**E.4.1. Compliance of the CPA implementation with the included CPA design document**

Means of verification	<p>The reporting for this issuance has been done technology-wise, thus section E.4 shall be dealing with the distribution of ICS and its compliance with registered PoA-DD/4/ and applicable standards.</p> <p>CPA (10341-P1-0001-CP1) described in this section targets the promotion, distribution and sale of ICS/Improved Cook Stoves i.e., Burn Jikokoa G3 efficient cookstove, Jikobora efficient cookstove, Jiko Fresh efficient cookstove and Burnxtra Jikokoa. As mentioned in CPA-DD on page 4 and 6/9/, models of efficient cookstoves other than those mentioned in CPA-DD may also be offered under the SSC-CPA as long as they meet all the requirements of the methodology and the PoA eligibility criteria. Technical specifications of the models distributed under this CPA were sought and checked/22/ to ensure that they meet all requirements of CPA-DD/9/, PoA-DD/4/ and applied methodology. All technical specifications of ICSs mentioned in MR were found to be consistent with manufacturer specifications/22/.</p> <p>MicroEnergy Credits Corp is the Coordinating and Managing Entity (CME) for the implementation of CPAs. The CME coordinates and manages each Partner Organization (PO)/CPA Implementer and assists them in implementing each element of the monitoring plan, which was confirmed to be the case by interviewing the CME and PO staff. The signed agreements between partner organizations and CME were also reviewed to confirm their role.</p> <p><u>Improved Cookstoves:</u></p> <table border="1"> <tr> <td>CPA Ref. #</td><td>10341-P1-0001-CP1</td></tr> <tr> <td>Inclusion date</td><td>21/02/2017</td></tr> <tr> <td>Location / State</td><td>Kenya</td></tr> <tr> <td>CEP Type</td><td>ICS</td></tr> <tr> <td>CEP Model</td><td>Burn Jikokoa G3 efficient cookstove, Jikobora efficient cookstove, Jiko Fresh efficient cookstove, Burnxtra Jikokoa efficient cookstove</td></tr> <tr> <td>CPA Implementer / PO</td><td>Equity Bank, Juhudi</td></tr> <tr> <td>Total Quantity Sold / Disseminated</td><td>4,733</td></tr> <tr> <td>Maximum Estimated Qty CEPs in CPA</td><td>75,000</td></tr> </table>	CPA Ref. #	10341-P1-0001-CP1	Inclusion date	21/02/2017	Location / State	Kenya	CEP Type	ICS	CEP Model	Burn Jikokoa G3 efficient cookstove, Jikobora efficient cookstove, Jiko Fresh efficient cookstove, Burnxtra Jikokoa efficient cookstove	CPA Implementer / PO	Equity Bank, Juhudi	Total Quantity Sold / Disseminated	4,733	Maximum Estimated Qty CEPs in CPA	75,000
CPA Ref. #	10341-P1-0001-CP1																
Inclusion date	21/02/2017																
Location / State	Kenya																
CEP Type	ICS																
CEP Model	Burn Jikokoa G3 efficient cookstove, Jikobora efficient cookstove, Jiko Fresh efficient cookstove, Burnxtra Jikokoa efficient cookstove																
CPA Implementer / PO	Equity Bank, Juhudi																
Total Quantity Sold / Disseminated	4,733																
Maximum Estimated Qty CEPs in CPA	75,000																

	Estimated CERs (comparable period)	34,057 tCO ₂ e												
	Actual CERs from the CEP Type	1,384 tCO ₂ e												
	<p>ICS were distributed in Kenya, which is consistent with the description given in the included CPA DD /9/. By the end of current monitoring period total 4,733 cook stoves were disseminated under this CPA as cross checked during desk review of credit tracker output file, which is within estimated quantity of 75,000 ICSs in the CPA DD/9/. The distribution model is that stoves are distributed by PO and managed by CME. The stoves are sold to end users and the sales data is collected by means of sales receipts/loan documents at the time of sale to the end user.</p> <p>Each household was found to be given a PO specific unique identifier, also specific to the corresponding partner organization. These unique identifiers are used to establish that double counting doesn't occur and all devices are traceable to the household those were distributed to (in-line with footnote 3 of revised accepted PoA-DD/4/), as listed below:</p>													
	<table border="1"> <thead> <tr> <th>CPA Implementer</th> <th>Unique Identification - 1</th> <th>Unique Identification - 2</th> <th>Unique identification - 3</th> </tr> </thead> <tbody> <tr> <td>Juhudi</td> <td>Purchaser name (Customer name)</td> <td>National ID number</td> <td>Bank ID number</td> </tr> <tr> <td>Equity</td> <td>Purchaser name (Customer name)</td> <td>GPS location of the nearest branch of PO which services the household</td> <td>Bank ID number</td> </tr> </tbody> </table>	CPA Implementer	Unique Identification - 1	Unique Identification - 2	Unique identification - 3	Juhudi	Purchaser name (Customer name)	National ID number	Bank ID number	Equity	Purchaser name (Customer name)	GPS location of the nearest branch of PO which services the household	Bank ID number	<p>It has been checked by the verification team that the verified CPA implementation is below its annual small scale threshold of 180 Gwhth for type II technologies.</p>
CPA Implementer	Unique Identification - 1	Unique Identification - 2	Unique identification - 3											
Juhudi	Purchaser name (Customer name)	National ID number	Bank ID number											
Equity	Purchaser name (Customer name)	GPS location of the nearest branch of PO which services the household	Bank ID number											
Findings	CL#02 raised and resolved													
Conclusion	<p>a) The verification team is of the opinion that the physical features of the CPA have been implemented in accordance with the registered/revised accepted CPA-DD.</p> <p>b) No specific monitoring equipment had to be installed according to the monitoring plan.</p> <p>c) It is also confirmed, through the interviews made with the CME & PO representatives and review of the supporting documentation, that physical features of the CPA have been implemented in accordance with the CPA-DD.</p> <p>d) The CPA was also found to be completely operational in line with the CPA-DD.</p> <p>e) The information provided in the relevant sections of the monitoring report appropriately describe the implementation of the PoA.</p>													

E.4.2. Post-registration changes

E.4.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

Not applicable

E.4.2.2. Corrections

A few corrections were made to the CPA-DD in previously approved PRCs

- Corrected the first year ER corresponding to improved cookstoves to 20,644, which were erroneously mentioned as 44,237, in the previous version of CPA-DD
- Reference corrections to sections based on latest template version 9.0

PRC approval date: 06/08/2020

PRC reference number- PRC-10341-002

Corrections applicable from this monitoring period:

Several editorial changes as a consequence of erroneous inputs in previous versions.

PRC approval date: 11/06/2021 (effective 10/06/2021)

PRC reference number- PRC-10341-005

E.4.2.3. Changes to the start-date of the crediting period

NA

E.4.2.4. Inclusion of a monitoring plan

NA

E.4.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

The following approved corrections were made to the PoA (including the generic CPA(s)) applicable from this monitoring period–

1. Clarification on efficiency degradation approach for determination of stove efficiency for ICS technology.
2. Addition of monitoring parameter- Lifespan

PRC approval date: 11/06/2021 (effective 10/06/2021)

PRC reference number- PRC-10341-005

E.4.2.6. Changes to the project design

A few corrections were made to the CPA-DD in previously approved PRC, approved prior to this monitoring period:

1. Update in number of solar lamps to be implemented in the CPA.
2. Technical specification of the product models are updated with additional information to comply with Methodology AMS III.A.R Version 05.0

PRC approval date: 06/08/2020

PRC reference number- PRC-10341-002

E.4.2.7. Changes specific to afforestation and reforestation activities

NA

E.4.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	The monitoring plan as contained in respective CPA-DD was reviewed against the monitoring requirements of the applied methodology AMS-II.G version 08 /7/ as well as PoA DD with reference to the technology involved. Based on this review it was found the monitoring plan contained in the CPA DD includes all the required parameters to be monitored in the context of the CPA design and description and allows proper determination of emission reductions in accordance with PoA DD and applied methodology AMS-II.G version 08 /7/.
Findings	No findings were raised.
Conclusion	The monitoring plan is in accordance with the approved methodology, AMS-II.G version 08 /7/, that is included in the CPA-DD.

E.4.4. Compliance of monitoring activities with the registered monitoring plan

E.4.4.1. Data and parameters fixed ex ante or at renewal of crediting period

Annual quantity of woody biomass that would have been used per person in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices ($B_{old,p}$), tonnes/person/year

Means of verification	The value considered for this parameter is mentioned below as per the CPA DD. This was checked with the revised accepted PoA-DD/4/ and included CPA-DD/9/.		
	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	0.5 (Wood)	CPA DD /9/

	0.083 (Charcoal)	
Findings	No findings were raised.	
Conclusion	The values in the Monitoring Report /12/ are consistent with the revised accepted PoA-DD and CPA-DD. The value applied for ER calculations in the relevant CPA is correct and justified.	

Average number of persons served per household prior to project implementation ($N_{p,HH}$), Number

Means of verification	The value considered for this parameter is mentioned below as per the CPA DD. This was checked with the revised accepted PoA-DD/4/ and included CPA-DD/9/.		
	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	4.4	CPA DD /9/
Findings	No findings were raised.		
Conclusion	The values in the Monitoring Report are consistent with the revised accepted PoA-DD and CPA-DD. The value applied for ER calculations in the relevant CPA is correct and justified.		

Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices ($B_{old,HH}$), tonnes/household/year

Means of verification	The value considered for this parameter is mentioned below as per the CPA DD. This was checked with the revised accepted PoA-DD/4/ and included CPA-DD/9/.		
	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	Wood: 2.2 Charcoal: 0.366667	CPA DD /9/
Findings	No findings were raised.		
Conclusion	The values in the Monitoring Report /12/ are consistent with the revised accepted PoA-DD and CPA-DD. The value applied for ER calculations in the relevant CPA is correct and justified.		

Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type i and batch j ($B_{old,i,j}$), Tonnes/year

Means of verification	The value considered for this parameter is mentioned below as per the CPA DD. This was checked with the revised accepted PoA-DD/4/ and included CPA-DD/9/.		
	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	Wood: 2.2 Charcoal: 0.366667	CPA DD /9/
Findings	No findings were raised.		
Conclusion	The values in the Monitoring Report /12/ and are consistent with the revised accepted PoA-DD and CPA-DD. The value applied for ER calculations in the relevant CPA is correct and justified.		

Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass ($f_{NRB,y}$)

Means of verification	The value considered for this parameter is mentioned below as per the CPA DD. This was checked with the revised accepted PoA-DD/4/ and included CPA-DD/9/.		
	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	0.92	CPA DD /9/
Findings	No findings were raised.		
Conclusion	The values in the Monitoring Report /12/ are consistent with the revised accepted PoA-DD and CPA-DD. The value applied for ER calculations in the relevant CPA is		

correct and justified.

Net calorific value of biomass (NCV_{biomass}), TJ/tonne

Means of verification	The value considered for this parameter is mentioned below as per the CPA DD. This was checked with the revised accepted PoA-DD/4/ and included CPA-DD/9/.		
	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	Wood: 0.015 Charcoal: 0.029	CPA DD /9/
Findings	No findings were raised.		
Conclusion	The values in the Monitoring Report /12/ are consistent with the revised accepted PoA-DD and CPA-DD. The value applied for ER calculations in the relevant CPA is correct and justified.		

Emission factor: substitution of non-renewable biomass by similar consumers ($EF_{\text{projected_fossilfuel}}$), tCO₂/TJ

Means of verification	The value considered for this parameter is mentioned below as per the CPA DD. This was checked with the revised accepted PoA-DD/4/ and included CPA-DD/9/.		
	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	81.6	CPA DD /9/
Findings	No findings were raised.		
Conclusion	The values in the Monitoring Report /12/ are consistent with the revised accepted PoA-DD and CPA-DD. The value applied for ER calculations in the relevant CPA is correct and justified.		

Fraction to account for leakage related to the non-renewable woody biomass saved by the proposed SSC-CPA (L_{NRB}), Fraction

Means of verification	The value considered for this parameter is mentioned below as per the CPA DD. This was checked with the revised accepted PoA-DD/4/ and included CPA-DD/9/.		
	CPA Ref. No.	Value Applied	Consistency Checked with
	10341-P1-0001-CP1	0.95	CPA DD /9/
Findings	No findings were raised.		
Conclusion	The values in the Monitoring Report /12/ are consistent with the revised accepted PoA-DD and CPA-DD. The value applied for ER calculations in the relevant CPA is correct and justified.		

E.4.4.2. Data and parameters monitored**Number of project devices of type i and batch j operating during year y ($N_{y,i,j}$), Number**

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The values reported in the final MR /12/ (and corresponding ER sheet /14/) were verified through the

	<p>CME Credit Tracker Platform screenshots /24/ and tracker output files/16/ that records the name of the customer, loan account number, branch name address/ description of location, unique client ID and date of first loan disbursement date. All ICSs sold till the end of the this monitoring period are included in the corresponding ER sheet of the CPA. The parameter is determined by obtaining the proportion of operational devices through monitoring surveys for each batch and multiplying it with total number of installed devices, thus obtaining the number of operational devices for the given batch for this monitoring period.</p> <p>The calculation for determining the sample size were checked by the verification team and found to be appropriate and consistent with equation in PoA-DD, as well as with Standard: Sampling and surveys for CDM project activities and programme of activities v.9.0/26/.</p> <p>The verified values are included in the final Monitoring Report /12/. The lower bound correction can be applied for batches not meeting required precision 10% at 90% confidence level in line with para 40 of applied methodology/7/. However, all batches meet the required precision and no correction is required.</p> <p>Total number of each type of cookstove operational during the monitoring period batch-wise is as below:</p> <table><tr><th>ICS Batches</th><th>Values applied</th></tr><tr><td>Jikokoa B1</td><td>384</td></tr><tr><td>Jikokoa B2</td><td>1116</td></tr><tr><td>Jikokoa B3</td><td>563</td></tr><tr><td>Jikokoa B4</td><td>1072</td></tr><tr><td>Jikokoa B5</td><td>406</td></tr><tr><td>Jikobora B1</td><td>577</td></tr><tr><td>Jikobora B2</td><td>65</td></tr><tr><td>Jikofresh B1</td><td>115</td></tr><tr><td>Burnxtra B1</td><td>37</td></tr></table>	ICS Batches	Values applied	Jikokoa B1	384	Jikokoa B2	1116	Jikokoa B3	563	Jikokoa B4	1072	Jikokoa B5	406	Jikobora B1	577	Jikobora B2	65	Jikofresh B1	115	Burnxtra B1	37
ICS Batches	Values applied																				
Jikokoa B1	384																				
Jikokoa B2	1116																				
Jikokoa B3	563																				
Jikokoa B4	1072																				
Jikokoa B5	406																				
Jikobora B1	577																				
Jikobora B2	65																				
Jikofresh B1	115																				
Burnxtra B1	37																				
If applicable, has the reported data been cross-checked with other available data?	Yes. The information provided in the ICS database /14,/16/ were verified randomly with the loan documents /20/ and through remote audit of 11 end-users by verification team. The responses provided by end-users during the remote surveys were found consistent with monitoring survey results/15/.																				
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	<p>The CME supervises the activities of the PO, providing training, guidelines and templates to facilitate accurate record keeping in their MIS system/Credit Tracker Platform.</p> <p>During the interview with the CME and POs, the sales process, record keeping, data management, etc. was reviewed and were found reliable.</p>																				
Findings	No findings were raised.																				
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.																				

This parameter would capture the type of each baseline stove that is being replaced with the project stoves, and would ensure that only inefficient cookstoves are being replaced (Stove_{baseline}):

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Tracked directly at the time of improved cookstove distribution
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the frequency of recording is in line with the approved CPA-DD.
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	No sampling is applied to this parameter. The baseline system of all end users who purchase an ICS is being tracked and recorded in the Credit Tracker. If the replaced system is a three stone stove fired by woody biomass, or a conventional system with no improved combustion air supply or flue gas ventilation system, it is recorded as 'traditional cookstove' in the credit tracker. The credit tracker data revealed that all households in which ICSs deployed had been using traditional cookstoves as baseline device. The baseline system in use is recorded in the baseline survey forms/38/ at the time of ICS distribution. The baseline forms checked for sample households revealed that the end users were dependent on traditional cookstoves before CPA implementation. The type of fuel used in the baseline stove is also found recorded in the project database.
	If applicable, has the reported data been cross-checked with other available data?	As a cross-check, the verification team, while conducting the remote audit of 11 randomly selected households, also questioned the end-users about the baseline system. All sampled household responses were consistent with information provided in credit tracker platform/16/.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the QA/QC procedure in place, internal checks have been done by the CPA implementer and CME. During this monitoring period, the ICS are found to be sold only to those households which use old and inefficient cook stoves fired by charcoal as their baseline cooking device.
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Adjustment to account for any continued use of pre-project devices during the year y (μ_y),
Fraction

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	At least once every two years (biennial) as per revised accepted CPA-DD. CME has monitored this parameter annually.

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	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	The frequency of recording is annual, which is within the range of acceptable frequency as per CPA-DD requirement, and therefore, acceptable													
	Monitoring equipment	Not applicable													
	Calibration frequency /interval:	Not applicable													
	How were the values in the monitoring report verified?	<p>The value of parameter is calculated based on the survey that was conducted by CME for the CPA included in current issuance. The survey records the baseline device usage pattern and cooking habits in households with deployed improved cookstoves. While selecting the samples for monitoring survey, consideration of vintage was done appropriately as verified from ER sheet in line with applied methodology. Random samples were drawn separately for each batch; the sampled data was found to be representative of the whole population. Sampling was applied by CME considering both model type and year of installation. The survey conducted during the monitoring includes questionnaire to check if the traditional stove is in use or not, and if it is in use, the number of meals cooked on it per day. The value thus obtained helps in quantification of use of baseline devices and is used to determine the parameter value by calculating the fraction of total meals which are cooked on the traditional cookstove for each monitored household. The number of meals cooked on traditional device is divided by total number of meals cooked in that household per day (which is also recorded through questionnaire) and is then subtracted from 1 to obtain the fraction of meals cooked on project device, thus obtaining the adjustment factor to account for continued use of pre-project device in that household.</p> <p>The implementation of this approach was verified using sample survey records/15/ and found to be consistent. The value recorded for each household includes all meals cooked throughout the day (including primary meals and other smaller meals), as was cross-checked from remote interviews.</p> <p>Data loggers were not practical to be used for each household according to CME since baseline devices are predominantly three-stone fire/ traditional cookstoves, which is why approach to conduct surveys was accepted.</p> <p>Calculation of all batches is found to met the required precision, 10%.</p> <p>The verified value obtained for this parameter for each ICS model batch-wise for each crediting year is as provided in the table below:</p> <table><tr><th>ICS Batches</th><th>Values applied</th></tr><tr><td>Jikokoa B1</td><td>0.92</td></tr><tr><td>Jikokoa B2</td><td>0.93</td></tr><tr><td>Jikokoa B3</td><td>0.92</td></tr><tr><td>Jikokoa B4</td><td>0.94</td></tr><tr><td>Jikokoa B5</td><td>0.95</td></tr><tr><td>Jikobora B1</td><td>0.91</td></tr></table>	ICS Batches	Values applied	Jikokoa B1	0.92	Jikokoa B2	0.93	Jikokoa B3	0.92	Jikokoa B4	0.94	Jikokoa B5	0.95	Jikobora B1
ICS Batches	Values applied														
Jikokoa B1	0.92														
Jikokoa B2	0.93														
Jikokoa B3	0.92														
Jikokoa B4	0.94														
Jikokoa B5	0.95														
Jikobora B1	0.91														

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		Jikobora B2	0.93
		Jikofresh B1	0.92
		Burnxtra B1	0.94
		Calculations for this parameter were checked and it was concluded that the results are reproducible in corresponding ER sheet to final Monitoring Report /12/	
	If applicable, has the reported data been cross-checked with other available data?	The survey results/15/ and sales records/16/ were checked by the verification team and were found acceptable. The verification team randomly selected 11 samples from the CPA under this issuance for DOE's remote audit and found that usage pattern of baseline device as discovered from surveys was consistent with the CME's sample survey result/15/.	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. The QA/QC procedure are in place, internal checks have been done by the CPA implementer and established during the assessment through interviews with CME and PO representatives.	
Findings		CAR#03 raised and resolved.	
Conclusion		The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Efficiency of the device of each type i and batch j implemented as part of the project activity ($\eta_{new,i,j}$). Fraction:

Means verification	of	Criteria/Requirements	Assessment/Observation				
		Measuring /Reading /Recording frequency	Recorded at the time of time of distribution and adjusted for loss of efficiency as per option (a) in para 25 of the applied methodology				
		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Not applicable since the efficiency of devices is adjusted for loss of efficiency using option (a) in para 25 of applied methodology				
		Monitoring equipment	Not applicable				
		Calibration frequency /interval:	Not applicable				
		How were the values in the monitoring report verified?	<p>The calculation for determining efficiency of the project device of each type is verified by the assessment team against the applied methodology AMS-II.G, ver. 8.0/7/, and procedure was found to be in line with para 25 (a) of applied methodology and revised approved CPA-DD/9/. The efficiency for each batch is determined by adjusting for loss of efficiency by applying a default schedule of linear decrease in efficiency up to terminal efficiency. The values for this parameter applicable for this monitoring period are provided below:</p> <table><tr><th>ICS Batches</th><th>Values applied</th></tr><tr><td>Jikokoa B1</td><td>22.50%</td></tr></table>	ICS Batches	Values applied	Jikokoa B1	22.50%
		ICS Batches	Values applied				
Jikokoa B1	22.50%						

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		Jikokoa B2	27.50%
		Jikokoa B3	32.50%
		Jikokoa B4	37.50%
		Jikokoa B5	42.50%
		Jikobora B1	25.32%
		Jikobora B2	28.87%
		Jikofresh B1	24.86%
		Burnxtra B1	40.00%
		Calculations for this parameter were checked and it was concluded that the results are reproducible in corresponding ER sheet to final Monitoring Report /12/.	
If applicable, has the reported data been cross-checked with other available data?	The initial rated capacity of all types of stoves distributed, which is used to calculate annual drop in efficiency, is checked against manufacture specifications on efficiency based on WBTs/22/, and all values were found to be appropriate and consistently reported.		
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. The QA/QC procedure are in place, internal checks have been done by the CPA implementer. This is a calculated parameter and the the efficiency of the project cookstoves is assumed to degrade from first day of commissioning/ distribution of the ICS, and the average efficiency of a given year is applied for the entire year, calculated as the midvalue between the efficiency values at the start and end of that year. The approach is found acceptable.		
Findings	No findings		
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.		

Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices. (NCV_{biomass}), TJ/tonne

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Not applicable since methodological default value has been used.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Not applicable since methodological default value has been used.
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The value applied 0.029, was checked with the methodology AMS-II.G, ver. 8.0/7/ parameter table 12, and found correctly applied for the verification,. The applied value is in-line with the CPA-DD/9/ and the revised approved PoA-DD/4/. Since all project devices are charcoal fueled stove (jikokoa stoves), the applied value is

		found appropriate.
	If applicable, has the reported data been cross-checked with other available data?	Not applicable
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Efficiency of pre - project device, which are the conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney. ($\eta_{old,i,j}$). Fraction

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Once for each household at the time of loan application
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The value for efficiency of pre-project device, as reported in the final MR /12/ (and corresponding ER sheet /14/) is verified through the methodology AMS-II.G, ver 8.0 /7/. This was further cross-checked with MEC credit tracker platform screenshots and output files that records the name of the customer, loan account number, branch name address/ description of location, unique client ID and date of first loan disbursement. It was confirmed that all ICS are sold to users which were using conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney (i.e. inefficient cooking device). For such cases, the efficiency value for pre-project inefficient device is taken as 0.1, as prescribed in the methodology AMS-II.G, ver 8.0 /7/.
	If applicable, has the reported data been cross-checked with other available data?	As a cross-check, the verification team, while conducting the remote audit of 11 randomly selected households, also questioned the end-users about the baseline system. All sampled household responses were consistent with information provided in database.
	Does the data management ensure correct transfer of data and reporting of	The CME supervises the activities of the PO, providing training, guidelines and templates to facilitate accurate

	emission reductions and are necessary QA/QC processes in place?	record keeping in their Credit Tracker Platform. During the interview with the CME representatives, the sales process, record keeping, data management, etc. was inquired and found reliable.
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Lifespan of each of the device distributed during the crediting period (Life span), Years

Means of verification	Criteria/Requirements	Assessment/Observation										
	Measuring /Reading /Recording frequency	Recorded once at the time of distribution										
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes										
	Monitoring equipment	Not applicable										
	Calibration frequency /interval:	Not applicable										
	How were the values in the monitoring report verified?	<p>Life span for all ICS models is determined from the manufacturer specifications. Technical specifications/22/ for all models were checked by the verification team and the data was found consistent with the reported life span in MR and ER sheet. The respective values for parameter are provided below:</p> <table><tr><th>ICS Batches</th><th>Life span</th></tr><tr><td>Jikokoa</td><td>5 Years</td></tr><tr><td>Jikobora</td><td>5 Years</td></tr><tr><td>Jikofresh</td><td>5 Years</td></tr><tr><td>Burnxtra</td><td>3 Years</td></tr></table> <p>The lifespan of all models is determined by the manufacturer and reported in technical specifications/22/. Therefore, the value of this parameter remains same throughout the crediting period and is not dependent on the stove batches/ vintages.</p> <p>This parameter is monitored to determine the efficiency for ICS, which is determined from automatic degradation over the period of life span of the device, at the end of which, the project stove is no more eligible for crediting of emission reductions.</p> <p>The determination of lifespan was found to be appropriate and in line with CPA-DD/9/, PoA-DD/4/ and applied methodology/7/.</p>	ICS Batches	Life span	Jikokoa	5 Years	Jikobora	5 Years	Jikofresh	5 Years	Burnxtra	3 Years
	ICS Batches	Life span										
Jikokoa	5 Years											
Jikobora	5 Years											
Jikofresh	5 Years											
Burnxtra	3 Years											
If applicable, has the reported data been cross-checked with other available data?	NA											
Does the data management ensure correct transfer of	Yes, the QA/QC procedure in place, internal checks have been done by the CPA implementer and CME and											

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	data and reporting of emission reductions and are necessary QA/QC processes in place?	established during the assessment through interviews with CME representatives.
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

To establish the date of commissioning, the Project Participant devices would be grouped in “batches” and the latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch (Date of commissioning of batch j), Date:

Means verification	of	Criteria/Requirements	Assessment/Observation																				
		Measuring /Reading /Recording frequency	Recorded once at the time of commissioning/distribution of the last project device in the batch																				
		Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes																				
		Monitoring equipment	Not applicable																				
		Calibration frequency /interval:	Not applicable																				
		How were the values in the monitoring report verified?	<p>Credit Tracker Platform screenshots and tracker output file was checked to verify the date of commissioning of batch j. The batch dates applied for the monitoring period were found to be consistent with credit tracker information. According to applied methodology AMS.II.G ver 8.0 para 12 and parameter table 19/7/, the latest date of commissioning of a device within the batch shall be considered the date of commissioning for the entire batch; for current CPA under issuance, batch formation was found to be in line with this applied methodology requirement as the date of installation of last ICS in a year is considered the commissioning date of that batch year, as confirmed from ICS database:</p> <table><thead><tr><th>ICS Batches</th><th>Date of commissioning</th></tr></thead><tbody><tr><td>Jikokoa B1</td><td>29/12/2016</td></tr><tr><td>Jikokoa B2</td><td>30/12/2017</td></tr><tr><td>Jikokoa B3</td><td>31/12/2018</td></tr><tr><td>Jikokoa B4</td><td>30/12/2019</td></tr><tr><td>Jikokoa B5</td><td>31/12/2020</td></tr><tr><td>Jikobora B1</td><td>30/12/2017</td></tr><tr><td>Jikobora B2</td><td>27/11/2018</td></tr><tr><td>Jikofresh B1</td><td>29/12/2017</td></tr><tr><td>Burnxtra B1</td><td>31/12/2020</td></tr></tbody></table> <p>The determination of batch commissioning date was found to be appropriate and in line with CPA-DD, PoA-DD and applied methodology.</p>	ICS Batches	Date of commissioning	Jikokoa B1	29/12/2016	Jikokoa B2	30/12/2017	Jikokoa B3	31/12/2018	Jikokoa B4	30/12/2019	Jikokoa B5	31/12/2020	Jikobora B1	30/12/2017	Jikobora B2	27/11/2018	Jikofresh B1	29/12/2017	Burnxtra B1	31/12/2020
	ICS Batches	Date of commissioning																					
Jikokoa B1	29/12/2016																						
Jikokoa B2	30/12/2017																						
Jikokoa B3	31/12/2018																						
Jikokoa B4	30/12/2019																						
Jikokoa B5	31/12/2020																						
Jikobora B1	30/12/2017																						
Jikobora B2	27/11/2018																						
Jikofresh B1	29/12/2017																						
Burnxtra B1	31/12/2020																						
	If applicable, has the reported data been cross-	NA																					

	checked with other available data?	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the QA/QC procedure in place, internal checks have been done by the CPA implementer and CME and established during the assessment through interviews with CME representatives.
Findings	CAR#03 raised and resolved.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Actual date of commissioning of the project device (Date of commissioning of project device i), Date

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Recorded once at the time of commissioning/distribution
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	The credit tracker platform screenshots/24/ and tracker output file/16/ were checked by the verification team and dates of commissioning ICS could be verified and were found to be consistently reported.
	If applicable, has the reported data been cross-checked with other available data?	Sample CTT/20/ and loan documents/20/ were checked by verification team for distributed ICS to establish the dates on which those sales were made. This information was found to be consistent with tracker output file.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. The QA/QC procedure are in place, internal checks have been done by the CPA implementer and established during the assessment through interviews with CME representatives.
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Number of project devices distributed per household ($N_{d,HH}$). Number:

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Recorded at the time of distribution of project devices

	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	Not applicable
	Calibration frequency /interval:	Not applicable
	How were the values in the monitoring report verified?	No household was found to report more than one ICS in the final ER sheets. Credit Tracker Platform/16/ was checked to verify the same. Household address mentioned in the PO sales records is checked to confirm if the same household has more than 1 distributed ICS i.e. to ensure that the same household doesn't receive more than one improved cookstoves. Therefore, value for this parameter is 1.
	If applicable, has the reported data been cross-checked with other available data?	This parameter was cross-checked through DOE remote audit; the verification team did not identify any household during the remote audit of 11 sampled households that mentioned to have received more than one ICSs as part of PoA during the remote audit. Additionally, the emission reduction calculations sheets were also checked to confirm if the same end-user name+ address is reported multiple times within the database. No such discrepancy was observed. No such discrepancy was observed.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. The QA/QC procedure are in place, internal checks have been done by the CPA implementer and established during the remote assessment. Training was provided to the staff responsible for collection of data as confirmed from training records/17//18/ and remote interviews.
Findings	No findings were raised.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

E.4.4.3. Implementation of sampling plan

Means of verification	<p>The monitoring has been carried out only for improved cookstoves.</p> <p>Sampling Design/Target Population/Sampling Frame/Reliability: CME has applied simple random sampling method at CPA level for the monitoring of parameters $N_{y,i,j}$ and $u_{y,i,j}$. The samples are randomly picked from each batch. The sampling frame considered confidence level and precision as 90/10 considering the requirement of Standard for sampling and surveys for CDM PoAs/26/ for all these parameters. The Credit Tracker Platform that records the contact details of the ICS end users serves as the basis from which sampling frame is developed. Differently aged cookstoves are divided into separate batches and samples are picked from each of these batches separately by applying the sampling plan on each of these batches, while also considers the model type of ICS.</p> <p>Sampling Method: Single stage simple random sampling was used for each batch in line with monitoring plan. Vintages of stoves are automatically considered by applying separate monitoring for each batch.</p>
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Sample Size (Required and Actual) for Parameter of Interest:

The sampling is applied to the following monitoring parameters:

1. $N_{y,i,j}$: Number of project devices of type i and batch j operating during year y .
2. $u_{y,i,j}$: Adjustment to account for any continued use of pre-project devices during the year y

In this regard, sample size calculation spreadsheet /14/ was checked and found correct as per registered monitoring plan. The complete details are given in section E.3 of Monitoring Report.

Sample selection:

A simple random sampling is followed by CME for each vintage batch for each of the parameters to be monitored using sampling. The vintage-wise batches are based on the implementation date of the devices. The same is found to be justified and appropriate.

The sampling also takes into consideration the model of device distributed i.e. batches have been made for each type of stove separately and sampling is applied on each of those batches. This was found in accordance with Guideline: Sampling and surveys for CDM project activities and programmes of activities/27/. A minimum number of ICS was known to CME for each parameter of interest through calculations conducted to determine the sample size as demonstrated in sample selection sheet/14/. The samples were drawn from the complete sales databases i.e., Credit Tracker Platform, either equal to or more than the minimum sample size determined. If the obtained sample size is less than 30, at least 30 samples or more are covered by CME as required in the standard Sampling and surveys for CDM project activities and programmes of activities. Hence, the verification team was able to confirm that there was no bias involved in selection of random samples.

Implementation of Sampling Survey and Field Test Records:

For monitoring of the parameters $N_{y,i,j}$ and $u_{y,i,j}$, the survey includes the question

- Is the ICS operational and in use?
- How many meals are cooked on the project device?
- Is another stove (e.g. traditional wood stove) in use? (Y/N). If yes then
- Number of meals cooked on the traditional cookstove in a day

Based on remotely conducted interviews of the CME and surveyors, and through surveys of end users, the implementation of survey was considered reliable.

Monitoring survey (by CME) duration:

The monitoring survey was carried out by CME representatives between following duration for the current MP (26/03/2020 to 31/12/2020) and previous MP (21/02/2017 to 25/03/2020):

Monitoring Period	Survey duration for current monitoring period	Period for which results were applied
MP1 (year 1)	Feb and March 2018	21/02/2017 to 20/02/2018
MP1 (year 2)	Feb and March 2019	21/02/2018 to 20/02/2019
MP1 (year 3)	January 2020	21/02/2019 to 31/12/2019
MP1 (year 4)	Feb and March 2020	01/01/2020 to 25/03/2020
MP2	Feb and March 2021	26/03/2020 to 31/12/2020

The monitoring survey dates were confirmed from the filled survey forms/15/. Since the surveyed parameters are monitored at an annual frequency, the survey results validity was checked for one year duration and the frequency was found in line with requirements of CPA-DD/9/ and guidance provided in "General guidelines for SSC CDM methodologies" version 23.1 /42/. Therefore, the monitoring surveys are found to be conducted appropriately as per required frequency.

Reliability and precision calculation:

The verification team has verified the ER calculation spreadsheets /14/ with the monitored data, where the actual achieved precision is calculated against the Guidelines outlined under "Standard for sampling and surveys for CDM project

	<p>activities and programme of activities"/26/ and can confirm that the calculation of achieved reliability was done correctly.</p> <p>Reliability and precision check is carried out (10% for all monitored parameters) and lower/upper bound limit is applied conservatively, wherever the required precision is not achieved in line with provision provided in applied methodology AMS.II.G. version 8.0 para 40. All batches were found meeting the precision requirements i.e., 10% precision.</p> <p>All parameters of interest are included in the ER spreadsheet for the approved CPA. These were checked for the input values as well as formula applied and were found consistent. The reliability (demonstration of precision achieved after the survey results) is depicted in the ER calculation sheets /14/ corresponding to final Monitoring Report /12/, which were also found correct.</p>
Findings	CL#02 was raised and resolved.
Conclusion	The verification team confirms that the implementation and monitoring of ICSs and their sampling procedures are in accordance with the monitoring plan provided in PoA DD and CPA-DD.

E.4.5. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Since no monitoring equipment was used during the monitoring surveys, the calibration frequency requirements are not applicable for the monitoring period.
Findings	No findings were raised.
Conclusion	No monitoring equipment was used by CME during the monitoring surveys, therefore this section is not applicable.

E.4.6. Assessment of data and calculation of emission reductions or net removals

E.4.6.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	<p>The following equations were used to determine the baseline emissions as provided in the monitoring report /12/. The expressions used were found consistent with the revised PoA DD, CPA DD and the applied methodology AMS-II.G, version 08:</p> <p>Emission reductions are calculated as:</p> $ER_y = \sum_i \sum_j ER_{y,i,j} - LE_y$ <p>Where:</p> <p>i = Indices different types of project device is introduced to replace the pre-project devices</p> <p>j = Indices for the situation where there is more than one batch of project device. However, for the CPA all project devices of on type would be considered as single batch.</p> <p>ER_y = Emission reductions during year y in t CO₂e</p> <p>$ER_{y,i,j}$ = Emission reductions by project device of type i and batch j during year y in t CO₂e</p> <p>LE_y = Leakage emissions in the year y</p> $ER_{y,i,j} = B_{y,savings,i,j} \times N_{y,i,j} \times \mu_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil\ fuel}$ <p>Where:</p> <p>$B_{y,savings,i,j}$ = Quantity of woody biomass/charcoal that is saved in tonnes per cook stove device of type i and batch j during year y</p>
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	$\overline{f_{NRB,y}}$ = Fraction of woody biomass that can be established as non-renewable biomass using survey methods or government data or default country specific fraction of non-renewable woody biomass (f_{NRB}) values available on the CDM website $\overline{NCV_{biomass}}$ = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne, based on the gross weight of the wood that is 'air-dried'). Same value in case of charcoal is 0.029 TJ/tonne $\overline{EF_{projected_fossilfuel}}$ = Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass/charcoal by similar consumers. Use a value of 81.6 t CO ₂ /TJ $\overline{N_{y,i,j}}$ = Number of project devices of type i and batch j operating during year y $\overline{\mu_y}$ = Adjustment to account for any continued use of pre-project devices during the year y $\overline{B_{y,savings,i,j}}$ due to implementation of efficient thermal devices is estimated as per the Option 3 provided in AMS IIG version 08: water boiling test (WBT): $B_{y,savings,i,j} = B_{old,i,j} \times (1 - \frac{\eta_{old,i,j}}{\eta_{new,i,j}})$
Findings	CAR#01 was raised and resolved.
Conclusion	<p>The verification team confirms that</p> <ol style="list-style-type: none"> The available data was duly reported; Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals were followed; Appropriate emission factors, IPCC default factors and other reference values were correctly applied. There is no pro-rate approach (CDM VVS-PoA Version 02) was applied in the current monitoring period as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol.

E.4.6.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	The PoA- DD, CPA-DD and applied monitoring methodology does not prescribe any project emissions to be considered. The project emissions already accounted in the equation referred for calculation of emission reductions. The project design also did not reveal any potential source to be considered in this regard.
Findings	No findings were raised.
Conclusion	No project emissions were required to be calculated.

E.4.6.3. Calculation of leakage GHG emissions

Means of verification	The PoA-DD, CPA-DD and applied monitoring methodology does not prescribe any leakage emissions to be considered. The project design also did not reveal any potential source to be considered in this regard. However, the leakage adjustment factor (L_{NRB}) that is required to adjust the baseline emissions is accounted in baseline calculations.
Findings	No findings were raised.
Conclusion	No additional leakage emissions (other than what is already considered in baseline calculations) were required in accordance with the methodologies

E.4.6.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks

Means of verification	As discussed in the above sections, the entire emission reductions from the PoA
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	(for ICS) are based on baseline emissions. The information presented in this regard in the final monitoring report /12/ was found appropriate and comply with the provisions prescribed in PS for PoA version 2.0.
Findings	No findings were raised.
Conclusion	<p>The verification team confirms that</p> <ul style="list-style-type: none"> a) The available data is duly reported; b) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed; c) Appropriate emission factors, IPCC default factors and other reference values were correctly applied. d) There is no pro-rate approach (CDM VVS-PoA Version 02) was applied in the current monitoring period as entire monitoring period falls into period that is after the end of first commitment period of Kyoto Protocol. e) The actual ERs were found to be 1,384 tCO₂e.

Title and UNFCCC reference number of the CPA	Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e)	Project emissions or actual net GHG removals by sinks (tCO ₂ e)	Leakage (tCO ₂ e)	GHG emission reductions or net GHG removals by sinks (tCO ₂ e)		
				Amount achieved before 1 January 2013	Amount achieved from 1 January 2013	Amount achieved in the entire monitoring period
MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa –CPA 01 and 10341-P1-0001-CP1 (For ICS only)	1,384	0	0	0	1,384	1,384
Total	1,384	0	0	0	1,384	1,384

E.4.6.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA

Means of verification	As verified and evident from the final Monitoring Report /12/ and corresponding ER calculations sheet /14/, the actual emission reductions achieved by the CPA that are included in the current monitoring period were found less than the estimated quantity in the CPA DD for each year. The quantitative details of actual values of achieved ERs for the CPA and value estimated in the specific CPA DD is presented in the table below.	
	Estimated ERs (comparable period) (tCO ₂ e)	Actual ERs in MR (tCO ₂ e)
	34,057 (ICS only)	1,384
	The scale (number of ERs) of Solar Lighting Systems distributed is below the threshold of SSC category Type II (180 GWhth per annum).	
	The verification team found that the actual implementation of the CPA was within the description of the specific CPA DD and therefore acceptable.	
Findings	The verification team found that the actual ERs achieved during this issuance are lower than the ERs estimated for the improved cookstoves.	
	Considering there is no increase in ERs, no further verification effort was put in.	
	No findings were raised.	
Conclusion	The actual emission reductions achieved for the CPA included are lower than the estimated quantity of ERs in the CPA DD. The small-scale threshold is maintained.	

Accordingly, it was accepted by the verification team.
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Title and UNFCCC reference number of the CPA	Actual values achieved by the CPAs during this monitoring period (tCO ₂ e)	Value estimated in ex ante calculation in the included CPA-DD(s) (tCO ₂ e)
MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa –CPA 01 and 10341-P1-0001-CP1 (For ICS only)	1,384	34,057
Total	1,384	34,057

E.4.6.6. Remarks on difference from estimated value in included CPA

Means of verification	The achieved emission reductions were compared with the ex-ante estimated numbers for the CPA (10341-P1-0001-CP1), and it was found that the ERs achieved are lower than estimated ERs for this monitoring period.
Findings	No findings were raised.
Conclusion	The calculation of emission reduction was found to be appropriate and inline to the methodological requirements. The difference from estimated value was found acceptable in accordance with the CPA-DD.

E.4.7. Assessment of reported sustainable development co-benefits

Means of verification	The CME has not requested DOE to verify sustainable development co-benefits.
Findings	No findings were raised.
Conclusion	Not applicable

E.4.8. Global stakeholder consultation

Means of verification	Not applicable
Findings	Not applicable
Conclusion	Not applicable

SECTION F. Internal quality control

A draft verification report prepared by verification team is reviewed by an independent technical review team (one or more members) to confirm whether all the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion were reached in an objective manner that complies with the applicable CDM rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team.

During the technical review process, additional findings may be identified or the closed findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized by the Managing Director on behalf of Earthood Services Private Limited.

SECTION G. Verification opinion

Earthood Services Private Limited (ESPL), contracted by MicroEnergy Credits Corporation Private Limited (the CME for the PoA), has performed the independent verification of the emission reductions for the registered CDM PoA 10341 “MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa” in Kenya and Uganda for the second monitoring period 26/03/2020 to 31/12/2020 (both days included) as reported in the Monitoring Report (public) Version 2 /11/ dated 10/06/2021. The present verification is applicable to 2nd monitoring period. The CME is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

ESPL confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements. This verification report has been prepared using the latest available template specified by UNFCCC and complies with the instructions to follow of CDM VVS-PoA Version 02/1/.

The verification activities were conducted in accordance with ESPL's CDM Quality Manual System as per the steps indicated under Section A of this report. The verification process has resulted in conclusion that the included CPA conform to the revised accepted PoA-DD as well as comply with applicable CDM rules and regulations and in accordance with applied monitoring methodologies AMS-III.AR, version 5 /6/, AMS-II.G version 8 /7/, and AMS-III.AV, version 5 /8/.

As a result, it is confirmed that the emission reductions from the CDM PoA 10341 "MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa" are correctly reported in the Monitoring Report (final) Version 3 dated 07/08/2021 /12/ and corresponding ER sheet for the monitoring period 26/03/2020 to 31/12/2020 (including both days) /14/ amount as 29,804 tCO₂e. Therefore, this will be submitted as part of request for issuance as per CDM PCP Version 02 /3/.

SECTION H. Certification statement

The verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the PoA for the monitoring period 26/03/2020 to 31/12/2020 are fairly stated in the Monitoring Report (final) Version 3 dated 07/08/2021.

ESPL, based on outcome of verification activities, certify in writing that, during the monitoring period 26/03/2020 to 31/12/2020 (including both days), the registered CDM PoA "MicroEnergy Credits – Microfinance for Clean Energy Product Lines – Africa" and the included CDM CPA (10341-P1-0001-CP1) in the registered CDM PoA achieved the verified amount of 29,804 tCO₂e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the CPA.

The verified amount of emission reductions is stated below for the CPA covered and as per commitment period:

CPAs (included in this request)	Emission Reductions (Amount) in this monitoring period (in tCO ₂ e)		
	Up to 31/12/2012 (1 st commitment period)	01/01/2013 until 31/12/2020 (2 nd commitment period)	01/01/2021 onwards
10341-P1-0001-CP1	-	29,804 tCO ₂	-
Total	-	29,804 tCO ₂	-

Appendix 1. Abbreviations

Abbreviations	Full texts
AQL	Acceptable Quality Level
IR	Internal Resource
LED	Light Emitting Diode
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PS	Clean Development Mechanism Project Standard
CDM VVS	Clean Development Mechanism Validation and Verification Standard
CER	Certified Emission Reduction
CEP	Clean Energy Product
CL	Clarification Request
CME	Coordinating or Managing Entity
CPA	Component Project Activity
CP	Crediting period
CTT	Carbon Title Transfer
DOE	Designated Operational Entity
DNA	Designated National Authority
EB	Executive Board
LFR	Lamp Failure Rate
ESPL	Earthhood Services Private Limited
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GOI	Government of India
ICS	Improved Cook Stove
IPCC	Intergovernmental Panel on Climate Change
MEC	MicroEnergy Credits Corp
MIS	Management Information System
PDD	Project Design Document
PO	Partner Organization
MP	Monitoring Period
SLS	Solar Lighting System
NA or N/A	Not Applicable
TA	Technical Area (with in Sectoral Scope)
TR	Technical Reviewer
VVS	Validation and Verification Standard
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable Quality Level
WPS	Water Purification System
CFL	Compact Fluorescent Lamp
CEO	Chief Executive Officer

Appendix 2. Competence of team members and technical reviewers

Appendix 3. Competence Statement	
Name	Shifali Guleria
Education	M.Sc. (Environmental Studies and Resource Management), TERI University

Experience	2+ year		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	YES (AMS-I.A., AMS-II.G., AMS-III.A.V., AMS-I.D, ACM0002)		
Local expert	YES		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (1.2, 3.1)		
Reviewed by	Shreya Garg	Date	09/07/2020
Approved by	Ashok Gautam	Date	09/07/2020

Competence Statement			
Name	Rahi Sahni		
Education	M.Sc Environment Science and Technology, Bharati Vidyapeeth University, Pune		
Experience	6 months		
Field	Climate Change and Environment		
Approved Roles			
Team Leader	NO		
Validator	Yes		
Verifier	Yes		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert	NO		
Reviewed by	Shreya Garg	Date	09/04/2020
Approved by	Anshika Gupta	Date	09/04/2020

Competence Statement			
Name	Virginia Njeri		
Country	Kenya		
Education	Diploma (Business Management)		
Experience	7 Years		
Field	Administration		
Approved Roles			
Team Leader	No		
Validator	No		
Verifier	No		
Methodology Expert	No		
Local expert	Kenya		
Financial Expert	No		
Technical Reviewer	No		

TA Expert	No		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Kumar Gautam	Date	01/03/2018

Competence Statement			
Name	Sanjeev Kumar		
Country	India		
Education	B. Tech. (Chemical Engineering) M.Tech. (Energy Management)		
Experience	13.5 years +		
Field	Climate Change, Environment, Energy		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	YES (ACM0002, ACM0006, ACM0004, ACM0009, ACM0012, ACM0001, AMS I.D, AMS I.F, AMS I.C, AMS I.A, AMS II.C, AMS II.D, AMS II.E, AMS III.H, AMS III.AR, AM0009, AM0013, AM0025, AM0056, AM0028, AM0029, AM0008, AMS III.R, ACM0003)		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, 4.1, 13.1)		
Reviewed by	Shreya Garg	Date	16/12/2020
Approved by	Anshika Gupta	Date	16/12/2020

Competence Statement			
Name	Ashok Gautam		
Country	India		
Education	M. Sc. (Environmental Sciences) M. Tech. (Energy & Environmental Management)		
Experience	16 Years +		
Field	Energy, Climate Change & Environment		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-I.A., AMS-I.C., AMS-I.E, AMS-II.D., AMS-II.G., AMS-III.E., AMS-III.H., AMS-III.Q, AMS-III.Z., AMS-III.AV., AMS III.AR, AM0029, AM0025, AM0056, ACM0001, ACM0002, ACM0004, ACM0012, ACM0006, AM0018, ACM0009, AM0034, AMS.I.B, ACM0003		
Local expert	YES (India)		
Financial Expert	YES		
Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, TA 3.1, TA 13.1)		
Reviewed by	Shreya Garg	Date	15/04/2021

Approved by	Anshika Gupta	Date	15/04/2021
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Appendix 4. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
1.	UNFCCC	CDM VVS for PoA	Version 2	Others
2.	UNFCCC	CDM PS for PoA	Version 2	Others
3.	UNFCCC	CDM PCP for PoA	Version 2	Others
4.	MEC	PoA-DD (Registered); & PoA-DD (Revised)	Ver. 2.0, Dated 23/12/2016; & Ver. 6, Dated 18/02/2021	Others
5.	ESPL	PoA PRC Validation Report (PRC-10341-001) PoA PRC Validation Report (PRC-10341-004)	Ver. 3.0, Dated 14/10/2019 Ver. 2.1, dated 09/04/2021	Others
6.	UNFCCC	AMS-III.AR "Substituting fossil fuel based lighting with LED/CFL lighting systems"	Version 5	Others
7.	UNFCCC	AMS-II.G "Energy efficiency measures in thermal applications of non-renewable biomass"	Version 8	Others
8.	UNFCCC	AMS III.AV. "Low greenhouse gas emitting water purification systems"	Version 05	Others
9.	MEC	CPA-DD (Registered); & CPA-DD (Revised)	Ver. 2.0, Dated 23/12/2016; & Ver. 6.0, Dated 25/02/2021	Others
10.	KBS ESPL	CPA PRC Validation Report (PRC-10341-002) CPA PRC Validation Report (PRC-10341-005)	Ver. 3.0, Dated 09/07/2020 Version 2.0 Dated 26/02/2021	Others
11.	MEC	Monitoring Report (Public)	Ver. 2.0, Dated 10/06/2021	PP
12.	MEC	Monitoring Report (Final)	Ver. 3, Dated 07/08/2021	PP
13.	UNFCCC	CDM-POA-MR-FORM	Ver. 4.0	Others
14.	MEC	ER Sheet corresponding to MR (Final)	-	PP
15.	MEC	Monitoring survey forms (ICS)	For MP2	PP
16.	POs	Credit tracker and Tracker Output Files	For MP2	PP
17.	POs	Training Records – PO installation Staff	-	PP
18.	MEC	Training Records – Carbon Operations manager	-	PP
19.	MEC	Agreements between CME & Partner Organisation	Various	PP
20.	MEC	Sample CTTs and Loan documents of end users	Various	PP
21.	MEC	Sample SLS delivery note	Various	PP
22.	Various	Technical Specifications of SLS and ICSs (manufacturer specifications and third party test reports)	-	PP
23.	POs	PO booking records	-	PP
24.	-	Credit tracker screenshots	-	PP
25.	-	CEP photographs	-	PP
26.	UNFCCC	Standard: Sampling and surveys for CDM project activities and programme of activities	Version 9	Others
27.	UNFCCC	Guideline: Sampling and surveys for CDM project activities and programme of activities	Version 4.0	Others
28.	IPCC	IPCC Defaults	2006	Others
29.	UNFCCC	Glossary of CDM terms	Version 10	Others

30.	GOI	Travel restrictions and advisory: https://boi.gov.in/content/advisory-travel-and-visa-restrictions-related-covid-19-1	04/06/2021	Others
31.	MEC	ERPA – MEC Africa	14/12/2015	PP
32.	India.com	https://www.india.com/business/international-flight-ban-india-extended-till-july-31-dqca-4778201/	-	Others
33.	Raosoft	Raosoft Webpage http://www.raosoft.com/samplesize.html	-	Others
34.	WHO	Kenya covid-19 status: https://covid19.who.int/region/afro/country/ke	Last accessed: 09/08/2021	Others
35.	WHO	India covid-19 status: https://www.who.int/india/emergencies/coronavirus-disease-(covid-19)/india-situation-report	Last accessed: 09/08/2021	Others
36.	MEC	Internal Audit Report	December, 2020	CME
37.	Various	Accreditation documents and certificates for third parties (responsible for SLS technical specs)	Various	CME
38.	MEC	Baseline survey forms	Several	CME
39.	ESPL	Verification report for previous monitoring period (MP1) : https://cdm.unfccc.int/PoAIssuance/iss_db/poais535081634/view	Version 2, 11/08/2020	Others
40.	TÜV NORD	PoA validation report	Version 02 25/12/2016	Others
41.	TÜV NORD	CPA validation report: CPA 10341-P1-0001-CP1	Version 01 25/12/2016	Others
42.	UNFCCC	General guidelines for SSC CDM methodologies	Ver 23.1	Others
43.	UNFCCC	CDM EB: 110 th meeting	-	Others

Appendix 5. Clarification requests, corrective action requests and forward action requests

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

FAR ID	00	Section no.	Date : DD/MM/YYYY
Description of FAR			
Project participant response			Date : DD/MM/YYYY
Documentation provided by project participant			
DOE assessment			Date: DD/MM/YYYY

There is no finding from PoA validation or CPA validation.

Table 2. CL from this verification

CL ID	01	Section no.	E.3.1.	Date : 06/08/2021
Description of CL				
In Section C.1 of the PoA MR, within the heading 'Technology models implemented under the CPA', sub-heading 'Solar Lighting Systems', 27 SLS models have been mentioned to be distributed under CPA 0001)				
a. According to ER sheet for CPA 10341-P1-0001-CP1, there are some other SLS models also distributed under the CPA, which have not been listed in the MR.				
b. There are several inconsistencies reported between the technical details mentioned and the MR and manufacturer's specification. Please refer the MR for the specific comments.				
c. Since many of the SLS models listed as distributed under the CPAs were not reviewed as part of CPA inclusion and were not included in the registered CPA-DD, CME is requested to demonstrate (with supporting documents) eligibility of these models for being distributed under				

the CPAs.	
Project participant response	Date : 08/08/2021
<p>a. <i>All the models are already included in the MR. Please refer to ER sheet and MR. CME has not included any new model during the current Monitoring Period. The last lamp sales made in CPA-1 was on 10/11/2019</i></p> <p>b. <i>Revised</i></p> <p>c. <i>CME has not included any new model during the current Monitoring Period. The last lamp sales made in CPA-1 was on 10/11/2019. All the lamp models were part of MP-1 issuance. All the technical specifications are being enclosed as supporting documents.</i></p>	
Documentation provided by project participant	
DOE assessment	Date: 09/08/2021
<p>a) It has now been confirmed that all the SLS models included by the CME were already a part of MP1 and no new model has been introduced during the current MP. The technical specifications of all the models have been checked and the information is found to be consistent with the technological details listed under Section C.1 of the MR.</p> <p>b) The technical specifications of all the models have been checked and the information is now found to be consistent with the technological details listed under Section C.1 of the MR.</p> <p>c) All the SLS models included in the current MP are the same as the models included during the previous MP. The eligibility criterion has been cross-checked against the CPA-DD and technical specifications of all the models have also been reported consistently with the technological details listed under Section C.1 of the MR.</p>	
CL#01 is now closed.	

CL ID	02	Section no.	E.4.4.3	Date : 06/08/2021
Description of CL				
<p>1. According to MR and ER sheet, this issuance applied version 8.0 of Sampling and surveys for CDM project activities and programmes of activities, whereas the latest applicable version of this standard is version 9.0. CME shall demonstrate how the sample size calculation is in line with the latest requirements of the latest version of the standard.</p> <p>2. CME shall also clarify how the expected proportion values used for calculation of minimum sample size were determined, with supporting documents.</p>				
9Project participant response				Date : 08/08/2021
<p>1) <i>At the time of monitoring surveys, the version 8.0 of the standard was the latest version applicable. However, CME has checked, and the applied expected precision for improved cookstoves is found to be in line with the requirements mentioned under Paragraph 12 and footnote 10 of the Sampling and surveys for CDM project activities and programmes of activities, version 9.0</i></p> <p>2) <i>The expected proportion values were determined from the data derived from pilot study carried out by CME prior to the monitoring. This pilot data was used to determine the expected proportion values and numbers of samples. Enclosed is the pilot study report.</i></p>				
Documentation provided by project participant				
<i>Pilot study</i>				
DOE assessment				Date: 09/08/2021
<p>1. It is noted that the version of Standard: Sampling and surveys for CDM project activities and programmes of activities at the time of sampling applicable at the time of monitoring surveys conducted for ICS was version 8.0. However, it has been reviewed and confirmed that the sample size determination for all ICS survey groups is in line with latest version of the standard and all requirements in the updated version are met.</p> <p>2. The pilot study report was reviewed and all reported values are found to be consistently reported in the ER sheet for calculations. The surveys were found to be conducted prior to actual monitoring and found acceptable.</p>				
CL#02 is closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	E.3.6.1. & E.4.6.1	Date : 06/08/2021
Description of CAR				

1. The value for "Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the CPA-DDs for the CPA" has been mentioned inconsistently at various places in the submitted MR	
2. In Section C.3 of the MR, CME shall reflect all the post-registration changes approved during all the PRCs for the CPA in line with PS for PoA requirements for filling that section.	
Project participant response	Date : 08/08/2021
.1. The values have been corrected in the revised Monitoring report.	
2. Section C.3 is revised to include all the post-registration changes.	
Documentation provided by project participant	
Revised MR	
DOE assessment	Date: 09/08/2021
1. The value of Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the CPA-DDs for the CPA has now been made consistent everywhere in the revised MR.	
2. CME has now reflected all the the post-registration changes approved during all the PRCs for the CPA in line with PS for PoA requirements for filling that section.	
CAR#01 is now closed.	

CAR ID	02	Section no.	E.4.4.2.	Date : 15/04/2021
Description of CAR				
During the remote surveys, UID of the following two ICS end users as told by the end-users was found to be inconsistent with the CME database:				
1. James Maina- UID in database is 5776227, whereas end-users mentioned the UID 5776527.				
2. Simon Ndungu- UID in database is 23051231, whereas end-users mentioned the UID 23051251.				
Project participant response				Date : 08/08/2021
1. CME has crosschecked with the user. There was a miscommunication by user during the remote survey. The UID in the database is correct and it is 5776227. Please refer to the sales record for this customer for cross check.				
2. CME has crosschecked with the user. There was a miscommunication by user during the remote survey. The UID in the database is correct and it is 23051231. Please refer to the sales record for this customer for cross check.				
Documentation provided by project participant				
DOE assessment				Date: 09/08/2021
The product collection forms/ CTT, monitoring survey forms and baseline survey forms were checked and UIDs for all end-users were checked. It could be confirmed that the UIDs are consistent with information in database. The different ID observed on call can be attributed to language barrier and poor phone connectivity.				
CAR#02 is closed.				

CAR ID	03	Section no.	E.4.4.2.	Date : 15/04/2021
Description of CAR				
Several inconsistencies have been observed between the values of the ICS parameters (μ_y and Date of commissioning of batch j) reported in the MR and the corresponding values in the ER sheet. Please refer MR for specific comments.				
Project participant response				Date : 08/08/2021
The values have been corrected in the revised Monitoring Report.				
Documentation provided by project participant				
Revised Monitoring Report				
DOE assessment				Date: 09/08/2021
The values for the ICS parameters (μ_y and Date of commissioning of batch j) reported in the MR have now been made consistent with the corresponding values reported in the ER sheet.				
CAR#03 is now closed.				

Table 4. FAR from this verification

FAR ID	xx	Section No.		Date : DD/MM/YYYY
Description of FAR				
X				

Project participant response	Date : DD/MM/YYYY
X	
Documentation provided by project participant	
X	
DOE assessment	Date: DD/MM/YYYY
X	

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Document information

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