




**Validation report form for inclusion of component
project activities
(Version 03.0)**

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

BASIC INFORMATION

Title and UNFCCC reference number of the programme of activities (PoA)	BioLite Improved Cook stoves Programme UNFCCC Ref. No. 7997	
Version number of the validation report	Version 02	
Completion date of the validation report	03/12/2019	
Version numbers of the PoA-DD to which this report applies	Version 20; Dated 16/11/2017	
Title and reference number of each CPAs to be included	CPA Ref. no.	Title
	7997-P1-0051-CP1	CPA 051 – Charcoal Stoves in Kenya
	7997-P1-0052-CP1	CPA 052 – Charcoal Stoves in Kenya
	7997-P1-0053-CP1	CPA 053 – Charcoal Stoves in Kenya
	7997-P1-0054-CP1	CPA 054 – Charcoal Stoves in Kenya
	7997-P1-0055-CP1	CPA 055 – Charcoal Stoves in Kenya
	7997-P1-0056-CP1	CPA 056 – Charcoal Stoves in Kenya
	7997-P1-0057-CP1	CPA 057 – Charcoal Stoves in Kenya
	7997-P1-0058-CP1	CPA 058 – Charcoal Stoves in Kenya
	7997-P1-0059-CP1	CPA 059 – Charcoal Stoves in Kenya
	7997-P1-0060-CP1	CPA 060 – Charcoal Stoves in Kenya
	7997-P1-0061-CP1	CPA 061 – Charcoal Stoves in Kenya
	7997-P1-0062-CP1	CPA 062 – Charcoal Stoves in Kenya
	7997-P1-0063-CP1	CPA 063 – Charcoal Stoves in Kenya
	7997-P1-0064-CP1	CPA 064 – Charcoal Stoves in Kenya
	7997-P1-0065-CP1	CPA 065 – Charcoal Stoves in Kenya
	7997-P1-0066-CP1	CPA 066 – Charcoal Stoves in Kenya

	7997-P1-0067-CP1	CPA 067 – Charcoal Stoves in Kenya
	7997-P1-0068-CP1	CPA 068 – Charcoal Stoves in Kenya
	7997-P1-0069-CP1	CPA 069 – Charcoal Stoves in Kenya
	7997-P1-0070-CP1	CPA 070 – Charcoal Stoves in Kenya
	7997-P1-0071-CP1	CPA 071 – Charcoal Stoves in Kenya
	7997-P1-0072-CP1	CPA 072 – Charcoal Stoves in Kenya
	7997-P1-0073-CP1	CPA 073 – Charcoal Stoves in Kenya
	7997-P1-0074-CP1	CPA 074 – Charcoal Stoves in Kenya
	7997-P1-0075-CP1	CPA 075 – Charcoal Stoves in Kenya
	7997-P1-0076-CP1	CPA 076 – Charcoal Stoves in Kenya
	7997-P1-0077-CP1	CPA 077 – Charcoal Stoves in Kenya
	7997-P1-0078-CP1	CPA 078 – Charcoal Stoves in Kenya
	7997-P1-0079-CP1	CPA 079 – Charcoal Stoves in Kenya
	7997-P1-0080-CP1	CPA 080 – Charcoal Stoves in Kenya
Applied methodologies and standardized baselines for each CPA	CPA Ref. no.	Applied methodologies and standardized baselines
	7997-P1-0051-CP1 to 7997-P1-0080-CP1	AMS II G, Energy efficiency measures in thermal applications of non-renewable biomass, version 03, ASB0035: Baseline woody biomass consumption for household cookstoves in Kenya (version 01.0)
Sectoral scopes for each CPA	CPA Ref. no.	Sectoral scopes (indicate mandatory and conditional sectoral scopes)
	7997-P1-0051-CP1 to 7997-P1-0080-CP1	Sectoral Scope 3: Energy demand
Coordinating/managing entity (CME)	BioLite India Private Limited	
Host Parties	Kenya	
Estimated amount of annual average greenhouse gas (GHG) emission reductions or GHG removals by sinks in the crediting period (tCO₂e), perCPA	CPA Ref. no.	tCO₂e
	7997-P1-0051-CP1 to 7997-P1-0080-CP1	49,023 (for each of the CPAs)

Name and UNFCCC reference number of the DOE	Carbon Check (India) Private Ltd. UNFCCC Ref.No.: E-0052
Name, position and signature of the approver of the validation report	Amit Aanad, CEO 

SECTION A. Executive summary

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BioLite India Private Limited (hereafter referred as “CME”) has contracted Carbon Check (India) Private Ltd. (CC IPL) to perform the validation of thirty CPAs titled, “CPA 051 – Charcoal Stoves in Kenya”, “CPA 052 – Charcoal Stoves in Kenya”, “CPA 053 – Charcoal Stoves in Kenya”, “CPA 054 – Charcoal Stoves in Kenya”, “CPA 055 – Charcoal Stoves in Kenya”, “CPA 056 – Charcoal Stoves in Kenya”, “CPA 057 – Charcoal Stoves in Kenya”, “CPA 058 – Charcoal Stoves in Kenya”, “CPA 059 – Charcoal Stoves in Kenya”, “CPA 060 – Charcoal Stoves in Kenya”, “CPA 061 – Charcoal Stoves in Kenya”, “CPA 062 – Charcoal Stoves in Kenya”, “CPA 063 – Charcoal Stoves in Kenya”, “CPA 064 – Charcoal Stoves in Kenya”, “CPA 065 – Charcoal Stoves in Kenya”, “CPA 066 – Charcoal Stoves in Kenya”, “CPA 067 – Charcoal Stoves in Kenya”, “CPA 068 – Charcoal Stoves in Kenya”, “CPA 069 – Charcoal Stoves in Kenya”, “CPA 070 – Charcoal Stoves in Kenya”, “CPA 071 – Charcoal Stoves in Kenya”, “CPA 072 – Charcoal Stoves in Kenya”, “CPA 073 – Charcoal Stoves in Kenya”, “CPA 074 – Charcoal Stoves in Kenya”, “CPA 075 – Charcoal Stoves in Kenya”, “CPA 076 – Charcoal Stoves in Kenya”, “CPA 077 – Charcoal Stoves in Kenya”, “CPA 078 – Charcoal Stoves in Kenya”, “CPA 079 – Charcoal Stoves in Kenya”, and “CPA 080 – Charcoal Stoves in Kenya”, (hereafter called “the CPAs”) for inclusion in the registered PoA titled “BioLite Improved Cook stoves Programme”. CC IPL was commissioned to assess the information in the CDM-CPA-DD-FORMs for the CPAs against the requirements for including CPA to the registered PoA and further documentation requirements for including CPA to a PoA.

This report summarizes the findings of the validation of the small-scale Component Project Activity Design Document (CDM-CPA-DD-FORM), performed on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting and eligibility criteria for inclusion of the CPAs as established in the PoA-DD /B03/. The term “UNFCCC criteria” refers to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the simplified modalities and procedures for small scale CDM project and the subsequent decisions by the COP/MOP and CDM Executive Board. In addition to these criteria, host country criteria are also taken into account.

The assessment of a CPAs requesting to be included in a PoA shall ensure that all the requirements (as defined in the form of eligibility criteria) determined in the PoA are met. The assessment was performed on the basis of the eligibility and additionality criteria established in the PoA and the UNFCCC criteria for including CPA to a Programme of Activities (PoA) under the Clean Development Mechanism (CDM), as well as criteria given to provide for consistent project operations, monitoring and reporting according to AMS-II.G, version 03.0 /B05/.

The main objective of the PoA and the CPA(s) is promotion, distribution / installation of fuel-efficient improved cook stoves (ICS) in Kenya. The ICS disseminated through this programme will replace the prevailing inefficient three-stone fired or traditional stoves that now combust charcoal more efficiently, thus saving fuel and lowering greenhouse gas emissions.

The validation scope is defined as an independent and objective review of the Component Project Activity Design Documents (CPA-DDs /01/). The CPA-DDs /01-b/ are reviewed against the relevant UNFCCC CDM criteria for validation and registration of PoA. The validation team has, based on the recommendations in the Validation and Verification Standard for Programmes of Activities (VVS for PoAs), version 2.0 /B01-1/, employed a rule-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

While carrying out the validation, CC IPL determines if the CPAs comply with the requirements of UNFCCC, specifically the applicability conditions of the selected methodology and also assesses

the claims and assumptions made in the CPA-DDs /01-b/ without limitation on the information provided by the project participants.

The report is based on the assessment of the CPA-DDs /01-b/ undertaken through consultations with CME, application of standard auditing techniques including but not limited to document reviews, and CME interviews, review of the applicable/applied methodology and its underlying formulae and calculations.

This report contains the findings and resolutions from the validation and a validation opinion on the proposed CPAs thus confirming the project design as document is sound and reasonable and meets the stated requirements and identified criteria.

The validation process undertaken by the validation team includes:

1. The desk review of documents and evidences submitted by the CME in context of the reference CDM rules and guidelines issued by the CDM EB /B01/, /B08/.
2. Undertaking desk review, interview or interactions with the representative of the CME, reporting audit findings with respect to clarifications and non-conformities and the closures of the findings, as appropriate.
3. Preparing a draft validation report for CPA validation complying with the CDM requirements.
4. An Independent Technical Review team reviews the validation report prepared by the validating team. The final validation report that is accepted by the Technical Reviewer and approved on behalf of Carbon Check (India) Private Ltd. and process further as per CDM procedures.

The review of the CPA-DDs /01-b/, subsequent follow-up interviews and further verification of references/evidences provided, CCIPL, with sufficient evidence is able to determine the fulfilment of stated criteria in the approved revised registered PoA-DD /B03/. Hence, CCIPL is of the opinion that the CPAs meets all relevant UNFCCC requirements for CDM and correctly applies the baseline and monitoring methodology AMS-II. G, version 03.0 /B05/, thus recommends the CPAs for inclusion in the registered PoA "BioLite Improved Cook stoves Programme" /B03/.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

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	Interviews	Validation findings
1.	Team Leader /Technical Expert	IR	Agarwalla	Sanjay Kumar	CC IPL	X	NA	X	X
2.	Validator	IR	Chaudhari	Tushar	CC IPL	X	NA	X	X
3	Local Expert	EI	Muriuki	Job N			NA	X	

B.2. Technical reviewer and approver of the validation 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	Singh	Vikash Kumar	CC IPL
2.	Approver	IR	Aanand	Amit	CC IPL

SECTION C. Means of validation**C.1. Desk/document review**

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The validation was performed primarily based on the review of the CPA-DDs /01-b/ and the supporting documentation. This process included review of data and information presented to verify their completeness and review of the monitoring plan and monitoring methodology. Documents reviewed or referenced during the validation are listed in Appendix 3 below.

C.2. On-site inspection

On site inspection of the projects is not carried out due to the following reasons:

- ✓ The estimated emission reduction from each CPA as per the CPA-DDs is less than 100,000 tCO₂e/year.
- ✓ the CPAs is not implemented (at the time of CPA inclusion validation)
- ✓ there are no assessment required at on site inspection due to the reason that all parameters which are fixed ex-ante are either based on already approved revised PoA-DD or the applied baseline & monitoring methodology or publically available.
- ✓ There are no sampling/survey involved/carried out by the CME, which requires assessment on site.
- ✓ The LSC was not carried out separately for the CPAs. LSC conducted for the thePoA is considered for the CPAs also and this is in line with the registered PoA-DD. So no stakeholders were required to be interviewed.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Wurster	Erik	BioLite	13/11/2019 21/11/2019 (through skype)	Technology to be used in the CPAs; CPAs implementation status; ICS distribution procedure; Baseline scenario and additionality; Methodology applicability; Eligibility criteria for inclusion of CPA in the PoA; Record keeping and monitoring plan and ER calculations	Sanjay kumar Agarwalla, Tushar Chaurhari

C.4. Sampling approach

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Not Applicable

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

Areas of validation of compliance (SECTION D)	No. of CL	No. of CAR	No. of FAR
Titles of the CPAs and corresponding generic CPAs	--	--	--
Compliance with CPA-DD form	--	01	--
General description of the CPAs	02	--	--
Application of methodologies and standardized baselines	--	--	--
• Reference to methodologies and standardized baselines	--	--	--
• Project boundary, sources and GHGs	--	--	--
• Baseline scenario	--	--	--
Estimation of emission reductions or net anthropogenic removals	--	--	--
• Equations and parameters applied to calculate GHG emission reductions or net anthropogenic GHG removals	--	--	--
• Data and parameters fixed ex ante	03	--	--
• Ex ante calculation of GHG emission reductions or net anthropogenic GHG removals	--	--	--
• Summary of ex ante estimates of GHG emission reductions or net anthropogenic GHG removals	--	--	--
Monitoring plan	--	--	--
• Data and parameters to be monitored	--	--	--
• Description of the monitoring plan	--	--	--
Start date, crediting period type and duration	--	--	--
Environmental impacts	--	--	--
Local stakeholder consultation	--	--	--
Eligibility for inclusion	--	01	--
Others (please specify)	--	--	--
Total	05	02	--

SECTION D. Validation findings**D.1. Proposed CPAs and corresponding generic CPAs**

CPA title and reference number	Version number of the CPA-DD	Host Party	Generic CPA title, identification/reference number	Version number of the PoA-DD into which the CPA is included
CPA 051 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0051-CP1)	Version 3.0, dated 02/12/2019	Kenya	CPA XXX -BioLite Improved Cook stoves Programme	Version 20, dated 16/11/2017
CPA 052 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0052-CP1)	Version 3.0, dated 02/12/2019			

CPA 053 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0053- CP1)	Version 3.0, dated 02/12/2019			
CPA 054 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0054- CP1)	Version 3.0, dated 02/12/2019			
CPA 055 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0055- CP1)	Version 3.0, dated 02/12/2019			
CPA 056 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0056- CP1)	Version 3.0, dated 02/12/2019			
CPA 057 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0057- CP1)	Version 3.0, dated 02/12/2019			
CPA 058 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0058- CP1)	Version 3.0, dated 02/12/2019			
CPA 059 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0059- CP1)	Version 3.0, dated 02/12/2019			
CPA 060 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0060- CP1)	Version 3.0, dated 02/12/2019			

CPA 061 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0061- CP1)	Version 3.0, dated 02/12/2019			
CPA 062 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0062- CP1)	Version 3.0, dated 02/12/2019			
CPA 063 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0063- CP1)	Version 3.0, dated 02/12/2019			
CPA 064 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0064- CP1)	Version 3.0, dated 02/12/2019			
CPA 065 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0065- CP1)	Version 3.0, dated 02/12/2019			
CPA 066 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0066- CP1)	Version 3.0, dated 02/12/2019			
CPA 067 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0067- CP1)	Version 3.0, dated 02/12/2019			
CPA 068 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0068- CP1)	Version 3.0, dated 02/12/2019			

CPA 069 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0069- CP1)	Version 3.0, dated 02/12/2019			
CPA 070 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0070- CP1)	Version 3.0, dated 02/12/2019			
CPA 071 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0071- CP1)	Version 3.0, dated 02/12/2019			
CPA 072 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0072- CP1)	Version 3.0, dated 02/12/2019			
CPA 073 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0073- CP1)	Version 3.0, dated 02/12/2019			
CPA 074 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0074- CP1)	Version 3.0, dated 02/12/2019			
CPA 075 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0075- CP1)	Version 3.0, dated 02/12/2019			
CPA 076 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0076- CP1)	Version 3.0, dated 02/12/2019			

CPA 077 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0077- CP1)	Version 3.0, dated 02/12/2019			
CPA 078 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0078- CP1)	Version 3.0, dated 02/12/2019			
CPA 079 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0079- CP1)	Version 3.0, dated 02/12/2019			
CPA 080 – Charcoal Stoves in Kenya (Reference no. 7997-P1-0080- CP1)	Version 3.0, dated 02/12/2019			

D.2. Compliance with CPA-DD form

Means of validation	DR, I
Findings	CAR 01 had been raised in this regards and successfully closed. Refer to Appendix 4 for further details.
Conclusion	<p>Through means of document review and interviews with CME, the validation team considers that the description of the CPAs in the respective CPA- DDs /01-b/ is accurate and complete; meets the requirements to be included in the PoA titled “BioLite Improved Cook stoves Programme” /B03/ and correctly apply the baseline and monitoring methodology AMS-II.G, Version 03 /B05/ and requirements of CDM VVS for PoAs (version 02.0) /B01-1/.</p> <p>The validation team confirms that the requirements of the CDM-CPA-DD-FORM filling guidelines /B07/ and section 8.1 of CDM VVS for PoA (version 02.0)/B01-1/ have been appropriately met.</p>

D.3. General description of the CPAs

Means of validation	DR, I
Findings	CL 01 and CL 02 had been raised and closed successfully. Refer to Appendix 4 for further details.
Conclusion	<p>The following description of the proposed component project activities as per CPA-DDs /01-b/ is verified:</p> <p>The CPAs are developed under the Small-Scale Programme of Activities (PoA) titled “BioLite Improved Cook stoves Programme” /B03/, which is coordinated and managed by BioLite India Private Limited. The CPAs of the PoA involve the promotion and installation of ICS in Kenya in the rural and uraban households, as per the CPA-DDs /01/ and will involve domestic fuel-efficient improved cook stoves (ICS) for each of the CPAs. The physical boundary of the CPAs is geographical boundaries of Kenya. All the CPAs are being implemented in a single host country, Kenya.</p> <p>The main objective of the CPAs is ICS dissemination and will replace the prevailing</p>

inefficient three-stone fired or traditional stoves which combusts wood and/or charcoal and hence saving fuel and lowering greenhouse gas emissions. The amount of woody biomass that would be saved due to the implementation of the CPAs shall directly translate into reduction of GHG emissions. The CPAs shall also lead to a reduced pressure on forests and woody biomass resources, reduced indoor air pollution associated with use of traditional stoves.

The CPAs implementer is International Carbon Portfolio Ltd. as confirmed by reviewing the CPA-DDs /01-b/, agreement in between the CME and the CPA implementer /13/ and interviews with the representative of the CME during the assessment. The CME shall be responsible to perform quality control activities for the proposed CPAs and the same has been checked and confirmed by reviewing the CPA-DDs /01-b/ and interviews with the representative of the CME.

The CPAs will involve dissemination and implementation of four model of ICS under the proposed CPAs which are the BioLite Jiko Malkia having 50.07% efficiency, the EcoZoom Jiko Fresh having 36.21% efficiency, EcoZoom Jiko Bora having 37.74% efficiency and EcoZoom Jiko Bora Mama Yao having 40.40% efficiency. The thermal efficiency of the stoves /04/ were verified through review of Water Boiling Test (WBT) results of Cook Stoves as performed by third party /04/. The technical specifications of the ICS model proposed to be distributed in the CPAs was verified from the relevant documents provided by the stove manufacturers /05/.

Expected start date for the CPAs is 15/12/2019 as stated in the CPA-DDs /01-b/ and a self declaration provided by CME /03/. CME has considered the start date as the date on which purchase order is expected to be placed for the first lot of stoves for the CPAs /03/. The validation team confirms that the start date is after the start date of the PoA (on 19/11/2011). This is in line with the approved revised PoA-DD /B03/ and requirements of §200 CDM VVS for PoAs, version 02 and hence deemed acceptable.

The validation team based on the review of the CPA-DDs /01-b/ and declaration from the CME /08/ confirms that there is no double counting of emission reductions due to the implementation/inclusion of the CPAs, as the CPAs do not belong to or are included in any other PoA or stand-alone CDM project. The validation team has cross-checked this from the UNFCCC website and interviews with representatives of CME and confirms that there is no double counting. Further, the double-counting risk is prevented by the unique serial number being assigned to each of the stoves to be distributed under the CPAs /06/. Furthermore, the validation team based on the review of CPA-DDs /01-b/ and CME manual /17/ confirms that in order to avoid double counting, the CME has adopted a provision of a record keeping system. The record keeping system for the proposed CPAs under the PoA includes detailed distribution information collected from end-user through registration process /11/.

Duration of the crediting period for all the CPAs was confirmed to be renewable at 7 years and is as per requirements of §187 of CDM PS for PoAs (version 02.0) /B01-2/ and § 201 of CDM VVS for PoAs (version 02.0)/B01-1/

Given that the CPAs would be implemented as described in the CPA-DDs /01-b/, it is likely that each of the CPAs achieve an estimated amount of emission reductions/02/ of 343,161 tCO₂e over the 7 years renewable crediting period, leading to an annual average of 49,023 tCO₂e as indicated in the final CPA-DDs /01-b/ and also in the ER calculation sheets /02-b/. In addition, the steps used for ER calculations were found to be in conformance with the requirements of the methodology AMS-II.G, Version 03 /B05/.

Based on the information furnished by the CME, no ODA contributes to the financing of the CPAs /10/.

The requirements related to de-bundling are met for each CPA of CPAs as the ICS to be distributed under the CPAs are below the threshold limit of 1% of the small scale limit of 180 GWh. CME has used highest efficiency value i.e. 50.07% of BioLite Jiko Malkia ICS model to calculate $B_{y\text{ saving}}$ and there by resultant energy

	<p>saving per CPA to determine de-bundling requirement for each CPA of the CPAs. Based on the review of the ER spreadsheet /02-b/ and CPA-DDs /01-b/, the validation team deems this to be conservative and appropriate. This is also in conformance to the requirements stated in §128(b) of CDM PS for PoAs (version 02.0) /B01-2/. This is deemed appropriate to the validation team and is in conformance with the requirements of §15 of the Guidelines on assessment of de-bundling for SSC project activities (version 04.0) /B08-4/, §195 of CDM PS for PoAs (version 02.0) /B01-2/ and § 206 of CDM VVS for PoAs (version 02.0) /B01-1/.</p> <p>The description of the CPAs as provided in the CPA-DD /01-b/ is in accordance with the approved revised registered PoA-DD /B03/.</p> <p>The validation team confirms that the description of the proposed CPAs in the CPA-DDs is accurate, complete, and provides an understanding of the proposed CPAs.</p> <p>The validation team took cognizance of §185-191 of CDM VVS for PoAs (version 02.0) /B01-1/.</p>
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D.4. Application of methodologies and standardized baselines

D.4.1. Reference to methodologies and standardized baselines

Means of validation	DR, I														
Findings	-														
Conclusion	<p>The validation team has reviewed the CPA-DDs /01-b/ along with relevant supporting documentation provided by CME in regards to the applicability of the methodology AMS II.G, version 03 and the standardized baseline ASB0035, version 01. The assessment is provided below:</p> <table border="1"> <tr> <th colspan="2">Applicability of selected methodology AMS II.G, version 03</th></tr> <tr> <th>Applicability criterion</th><th>DOE assessment</th></tr> <tr> <td>This category comprises appliances involving the efficiency improvements in the thermal applications of nonrenewable biomass. Examples of these technologies and measures include the introduction of high efficiency biomass fired cook stoves or ovens or dryers and/or improvement of energy efficiency of existing biomass fired cook stoves or ovens or dryers.</td><td>The technology to be employed under the CPAs include high efficiency charcoal fired cook stoves. The efficiency of all improved stoves models to be distributed in the CPAs is greater than 20% /04/ which is greater than the baseline stoves. Hence, the applicability criterion is met.</td></tr> <tr> <td>Project participants are able to show that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.</td><td>The UNESCO report "Fighting desertification in Kenya, one tree at a time, 2006" and FAO report "Global Forest Resources Assessment 2010, Country Report Kenya /B10/ was reviewed and observed to study the degradation in forest cover has increased since independence (1963). The FAO data also shows a decline in forest areas and growing stock in forest land which confirms that nonrenewable biomass is getting used since 31 December 1989. Hence, the applicability criterion is met.</td></tr> </table> <table border="1"> <tr> <th colspan="2">Applicability of selected standardized baseline ASB0035, version 01</th></tr> <tr> <th>Applicability criterion</th><th>DOE assessment</th></tr> <tr> <td>The project activity is implemented in Kenya</td><td>The CPAs aim to disseminate the ICS in Kenya. Therefore, the project</td></tr> </table>	Applicability of selected methodology AMS II.G, version 03		Applicability criterion	DOE assessment	This category comprises appliances involving the efficiency improvements in the thermal applications of nonrenewable biomass. Examples of these technologies and measures include the introduction of high efficiency biomass fired cook stoves or ovens or dryers and/or improvement of energy efficiency of existing biomass fired cook stoves or ovens or dryers.	The technology to be employed under the CPAs include high efficiency charcoal fired cook stoves. The efficiency of all improved stoves models to be distributed in the CPAs is greater than 20% /04/ which is greater than the baseline stoves. Hence, the applicability criterion is met.	Project participants are able to show that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	The UNESCO report "Fighting desertification in Kenya, one tree at a time, 2006" and FAO report "Global Forest Resources Assessment 2010, Country Report Kenya /B10/ was reviewed and observed to study the degradation in forest cover has increased since independence (1963). The FAO data also shows a decline in forest areas and growing stock in forest land which confirms that nonrenewable biomass is getting used since 31 December 1989. Hence, the applicability criterion is met.	Applicability of selected standardized baseline ASB0035, version 01		Applicability criterion	DOE assessment	The project activity is implemented in Kenya	The CPAs aim to disseminate the ICS in Kenya. Therefore, the project
Applicability of selected methodology AMS II.G, version 03															
Applicability criterion	DOE assessment														
This category comprises appliances involving the efficiency improvements in the thermal applications of nonrenewable biomass. Examples of these technologies and measures include the introduction of high efficiency biomass fired cook stoves or ovens or dryers and/or improvement of energy efficiency of existing biomass fired cook stoves or ovens or dryers.	The technology to be employed under the CPAs include high efficiency charcoal fired cook stoves. The efficiency of all improved stoves models to be distributed in the CPAs is greater than 20% /04/ which is greater than the baseline stoves. Hence, the applicability criterion is met.														
Project participants are able to show that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	The UNESCO report "Fighting desertification in Kenya, one tree at a time, 2006" and FAO report "Global Forest Resources Assessment 2010, Country Report Kenya /B10/ was reviewed and observed to study the degradation in forest cover has increased since independence (1963). The FAO data also shows a decline in forest areas and growing stock in forest land which confirms that nonrenewable biomass is getting used since 31 December 1989. Hence, the applicability criterion is met.														
Applicability of selected standardized baseline ASB0035, version 01															
Applicability criterion	DOE assessment														
The project activity is implemented in Kenya	The CPAs aim to disseminate the ICS in Kenya. Therefore, the project														

Means of validation	DR, I	
		activity is implemented in Kenya. This is confirmed based on the review of the CPA-DDs /01-b/ and off-site interviews.
	The approved CDM methodology that is applied to the project activity is small-scale methodology AMS-II.G. "Energy efficiency measures in thermal applications of non-renewable biomass" and/or small-scale methodology AMS-I.E "Switch from non-renewable biomass for thermal applications by the user"	The CPAs have applied small-scale methodology AMS-II.G. "Energy efficiency measures in thermal applications of non-renewable biomass" in line to the approved revised PoA DD. This is confirmed based on the review of the CPA-DDs /01-b/ and off-site interview.
	The standardized values are applicable to households using only firewood and/or charcoal in the preproject scenario as a cooking fuel; households using LPG and/or kerosene in the pre-project scenario as a cooking fuel are not eligible to apply the standardized values in this document.	Before every product distribution, each household would be checked for the baseline fuel in use. Households using LPG and Kerosene will not be the receiver of the dissemination product. This is confirmed based on the review of the CPA-DDs /01-b/, template of warranty registration card /11/ and on-off-site interview.
	The standardized values are not applicable to standalone renewable energy based water treatment technologies under AMS-I.E.	The CPAs do not involve standalone renewable energy based water treatment technologies. This is confirmed based on the review of the CPA-DDs /01-b/ and off-site interview.
	<p>Hence the validation team confirms the applicability of the applied methodology AMS II.G, version 03 and the Standardized baseline ASB0035, version 01 for the CPAs.</p> <p>This is in conformance with the requirements of §193 of CDM VVS for PoA (version 02.0)/B01-1/.</p>	

D.4.2. Project boundary, sources and GHGs

Means of validation	DR, I
Findings	--
Conclusion	<p>As per the applied methodology AMS-II.G, Version 03 /B05/, "Energy efficiency measures in thermal applications of non-renewable biomass", the boundary of a typical CPA under this PoA confines to 'is the physical, geographical site of the efficient systems using biomass.' (as per § 3 of the applied methodology). The spatial extent of the CPA boundary which is the geographical boundary of Kenya is clearly defined in the final CPA-DD /01-b/. The greenhouse gases and emission source included in the CPA boundary both in the baseline & project scenario, is CO₂ and is consistent with the description of project boundary provided in the PoA-DD /B03/.</p> <p>The physical delineation of the CPAs and the description of the emission sources and GHGs that are included in the CPA boundary are appropriate for the purpose of calculating project and baseline emissions for the CPAs.</p> <p>For the CPAs, a leakage factor of 0.95 has been considered to account for use/diversion of non-renewable woody biomass saved under the project activity by non-project households/users that previously used renewable energy sources. This value is the default value provided under §13 (a) of the applied methodology AMS-II.G, Version 03 /B05/.</p> <p>The methodology indicates CO₂ as the only GHG from baseline as well as project activity sources to be included in the boundary. Validation team confirms that the</p>

	<p>justification provided by the CME is reasonable and evidenced. Besides, there are no other sources, which are impacted by the projects and not addressed by the applied methodology.</p> <p>This is in conformance with § 3 of the applied methodology /B05/ and §194 of CDM VVS for PoAs (version 02.0) /B01-1/.</p>
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D.4.3. Baseline scenario

Means of validation	DR,I
Findings	--
Conclusion	<p>For the CPAs, the baseline scenario has been identified in accordance with the § 4 of the methodology AMS-II.G, Version 03 /B05/.</p> <p>As stated in the applied methodology AMS II.G, Version 03 /B05/ and the CPA-DDs /01-b/, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.</p> <p>Thus, the above baseline scenario is considered to be accurate and in conformance with the requirements of § 4 of the applied methodology /B05/ and §195 of CDM VVS for PoAs (version 02.0) /B01-1/.</p>

D.5. Estimation of emission reductions or net anthropogenic removals

D.5.1. Equations and parameters applied to calculate GHG emission reductions or net anthropogenic GHG removals

Means of validation	DR,I
Findings	--
Conclusion	<p>The equations and choices provided in the applied methodology /B05/ are correctly quoted in the CPA-DD /01-b/. The emission reductions of the CPAs of the PoA would be calculated using the formulae mentioned in the applied methodology AMS-II.G (Version 03.0) /B05/.</p> <p>The parameters and equations presented in the PoA-DD /B03/, CPA-DDs /01-b/ and ER spread-sheets /02/ have been compared with the information and requirements presented in the methodology /B05/. Validation team based on the review of CPA-DDs /01-b/ and the ER spread sheets /02-b/ and other supporting documents, confirms that the formula are correctly presented for the determination of emission reductions at CPA level and the values of the input parameters used are accurate, appropriate and consistent.</p> <p>Thus, the equations and parameters applied to calculate the emission reductions are considered to be accurate and in conformance with the requirements of §197 (a) of CDM VVS for PoAs (version 02.0) /B01-1/.</p>

D.5.2. Data and parameters fixed ex ante

Means of validation	DR,I			
Findings	CL 03, CL 04 and CL 05 had been raised and successfully closed . Refer to Appendix 4 for further details.			
Conclusion	Ex-ante parameters provided under section B.4.2 of the CPA-DDs /01-b/ are found to be appropriate and in line with the applied methodology AMS-II.G (version 03.0) /B05/. Ex-ante parameters of the proposed CPA is as follows:			
	Parameter	Description	Verified Value	Verified Source

	η_{old}	Efficiency of the baseline cook stove	0.1 (if the replaced system is the three stone fire or a conventional system without a grate as well as a chimney) 0.2 (where the baseline stove has a grate or a chimney).	Default value as per AMS-II.G. Version 03.0) /B05/. The validation team deemed the value to be appropriate and correct.
	$NCV_{biomass}$	Net Calorific value of non renewable woody biomass that is consumed in the baseline and project scenarios.	0.015 TJ/tonne	Default value as per AMS-II.G. (Version 03.0) /B05/. The validation team deemed the value to be appropriate and correct.
	$EF_{projected_fossilfuel}$	Emission factor for the substitution of non-renewable biomass by similar consumers	81.6 tCO ₂ /TJ	Default value as per AMS-II.G. (Version 03.0) /B05/. The validation team deemed the value to be appropriate and correct.
	L_y	Leakage Correction Factor	0.95	Default value as per AMS-II.G. (Version 03.0) /B05/. The validation team deemed the value to be appropriate and correct.
	B_{old}	Quantity of woody biomass used in the absence of the project activity in tonnes	0.76 kg/cap/y rural, 0.83 kg/cap/y urban	The values were sourced from the Standardized Baseline ASB0035, version 01 /B06/. The validation team deemed the value to be appropriate and correct.
	$f_{NRB,y}$	Fraction of woody biomass saved by the project activity in period y that can be established as non-renewable biomass	0.9272	The value of f_{NRB} has been calculated as per the methodological tool 30 using publicly available data /21/. The validation team has checked all the data source and the steps used as per the methodological tool and found the value to be correct and appropriate.
Thus, the data and parameters fixed ex-ante are considered to be accurate and in conformance with the requirements of §197(b) of CDM VVS for PoA (version 02.0)/B01-1/.				

D.5.3. Ex ante calculation of GHG emission reductions or net anthropogenic GHG removals

Means of validation	DR, I
Findings	CL 05 had been raised and closed successfully. Refer to Appendix 4 for further details
Conclusion	<p>The equations and choices provided in the applied methodology /B05/ are correctly quoted in the CPA-DDs /01-b/. The emission reductions due to the CPA has been calculated using the formulae mentioned in the applied methodology AMS-II.G (Version 03.0) /B05/ and the approved revised PoA-DD /B03/. The total ex ante emission reductions resulting from each of the CPAs for the entire first renewable crediting period of seven years is estimated to be 343,161 tCO₂e, leading to an annual average of 49,023 tCO₂e. The validation team reviewed the ER spread-sheets calculations /02/ and confirms the same to be correct.</p> <p>The validation team conducted assessment of emission reductions calculation. The parameters and equations presented in the CPA-DDs /01-b/, as well as other applicable documents, have been compared with the information stipulated in the methodology /B05/. The assumptions and data (both ex-ante and ex-post) used to determine the emission reductions are described in the CPA-DDs /01-b/ and all the sources have been checked and confirmed by validation team. Based on the reviewed information, it can be confirmed that the sources used are correctly quoted and interpreted in the CPA-DDs /01-b/. The values in the CPA-DDs /01-b/ are considered to be reasonable based on the documentation and references reviewed, as well as, the result of the interviews. The baseline methodology has been correctly applied according to the requirements.</p>

D.5.4. Summary of ex ante estimates of GHG emission reductions or net anthropogenic GHG removals

Means of validation	DR, I
Findings	--
Conclusion	<p>The ex-ante estimation of ER values is carried out based on equations given in the applied methodology AMS-II.G (Version 03.0) /B05/ and conforms to the requirements of § 197 of CDM VVS for PoA (version 02.0) /B01-1/.</p> <p>The total ex ante emission reductions resulting from each of the CPAs for the entire first renewable crediting period of seven years is estimated to be 343,161 tCO₂e, leading to an annual average of 49,023 tCO₂e. The validation team reviewed the ER spread-sheets calculations /02-b/ and confirms the same to be correct.</p>

D.6. Monitoring plan**D.6.1. Data and parameters to be monitored**

Means of validation	DR,I								
Findings	CL 06 had been raised and closed successfully. Refer to Appendix 4 for further details								
Conclusion	<p>The monitoring plan presented in the CPA-DDs /01-b/ complies with the requirements of the approved revised PoA-DD /B03/ and the applied monitoring methodology /B05/. The validation team has verified all parameters in the monitoring plan against the requirements of the methodology and no deviations have been found.</p> <p>The validation team through a document review and interviews with the relevant stakeholders has reviewed the procedures. The information provided has allowed the validation team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME.</p> <p>The parameters that are to be monitored ex-post are:</p> <table><tr><th>Parameter</th><th>Data unit</th><th>Description</th><th>Frequency</th></tr><tr><td>N_y</td><td>Number</td><td>Number of cook stoves in operation or replaced</td><td>Annually</td></tr></table>	Parameter	Data unit	Description	Frequency	N _y	Number	Number of cook stoves in operation or replaced	Annually
Parameter	Data unit	Description	Frequency						
N _y	Number	Number of cook stoves in operation or replaced	Annually						

	η_{new}	Fraction	Efficiency of the system being deployed as part of the project activity	Annually or Biennially
	Continuous use of baseline stoves	percentage	Number of households continuously using baseline stoves	Annually
	B_y savings	Tonnes /year	Quantity of woody biomass that is saved in tonnes	This is a calculated parameter
In summary, the parameter(s) to be monitored have been presented correctly according to requirements and are considered in accordance with the applied methodology /B05/ and approved revised PoA-DD /B03/. This is in conformance with the requirements of §198(a) of CDM VVS for PoA (version 02.0) /B01-1/.				

D.6.2. Description of the monitoring plan

Means of validation	DR,I
Findings	--
Conclusion	<p>The monitoring plan presented in the CPA-DDs /01-(b)/ comply with the requirements of the revised PoA-DD /B03/ and the applied monitoring methodology /B05/. The validation team of CCIPL has verified all parameters in the monitoring plan against the requirements of the methodology and no deviations have been found.</p> <p>The validation team through a document review and interviews with the relevant stakeholders has reviewed the procedures. The information provided has allowed the validation team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME.</p> <p>The responsibilities and institutional arrangements for data collection and archiving have been clearly provided. The information provided in the CPA-DDs /01-b/ could be confirmed based on the interviews and also through the submitted documentary evidence namely CME management manual /17/ covering all requirements as stated in section B.5.1 and B.5.2 of CPA-DDs /01-b/. Based on the same, it can be confirmed that the CME and the CPA implementer will be able to implement the monitoring plan and the achieved emission reductions can be reported ex-post and verified.</p>

D.7. Start date, crediting period type and duration

Means of validation	DR,I
Findings	CAR 01 had been raised and closed successfully. Refer to Appendix 4 for further details.
Conclusion	<p>The CPAs have not yet started. The expected start date for the CPAs is 15/12/2019 as stated in the CPA-DDs /01-b/ and CME has also provided a self declaration in this respect /03/. CME has considered the start date as the date on which purchase order is expected to be placed for the first lot of stoves for the CPAs. The start date of the PoA /B03/ is 19/11/2011. The validation team confirms that the start date of the CPAs is after the start date of the PoA. This is in line with the approved revised PoA-DD /B03/ and requirements of §200 CDM VVS for PoAs, version 02.0 and hence deemed acceptable.</p> <p>In addition, the type and duration of the crediting period for the CPA was confirmed to be renewable at 7 years and is as per requirements of §184 to §190 of CDM PS for PoAs (version 02.0)/B01-2/and §201 of CDM VVS for PoAs (version 02.0)/B01-1/.</p>

D.8. Environmental impacts

Means of validation	DR, I
Findings	--

Conclusion	As mentioned in the approved revised PoA-DD /B03/, the environmental impact analysis is carried out at PoA level. The validation team further confirms that the project activity does not require an Environmental Impact Assessment (EIA) according to Kenya law. This is in conformance with the requirements of §210, §211 and §233 of CDM VVS for PoAs (version 02.0) /B01-1/ and deemed appropriate to the validation team.
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D.9. Local stakeholder consultation

Means of validation	DR,I
Findings	--
Conclusion	It has been indicated in the PoA-DD /B03/ that LSC is carried out at PoA level. Hence further validation is not required.

D.10. Eligibility for inclusion

Means of validation	DR,I
Findings	CAR 02 had been raised and closed successfully. Refer to Appendix 4 for further details.
Conclusion	All the eligibility criteria required for the inclusion of the CPAs under the PoA have been addressed in the CPA-DDs /01-b/. The stated confirmation against each eligibility criteria has been checked / assessed and found acceptable by the validation team and complete assessment is provided in Appendix 5.

SECTION E. Internal quality control

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The final validation report has passed a technical review before being submitted to the project participant(s) and UNFCCC Executive Board. The technical review was performed by a technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM validation and verification.

SECTION F. Validation opinion

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Under the validation (by means of document review and interviews with stakeholders), the validation team considers that the description of CPAs titled, "CPA 051 – Charcoal Stoves in Kenya", "CPA 052 – Charcoal Stoves in Kenya", "CPA 053 – Charcoal Stoves in Kenya", "CPA 054 – Charcoal Stoves in Kenya", "CPA 055 – Charcoal Stoves in Kenya", "CPA 056 – Charcoal Stoves in Kenya", "CPA 057 – Charcoal Stoves in Kenya", "CPA 058 – Charcoal Stoves in Kenya", "CPA 059 – Charcoal Stoves in Kenya", "CPA 060 – Charcoal Stoves in Kenya", "CPA 061 – Charcoal Stoves in Kenya", "CPA 062 – Charcoal Stoves in Kenya", "CPA 063 – Charcoal Stoves in Kenya", "CPA 064 – Charcoal Stoves in Kenya", "CPA 065 – Charcoal Stoves in Kenya", "CPA 066 – Charcoal Stoves in Kenya", "CPA 067 – Charcoal Stoves in Kenya", "CPA 068 – Charcoal Stoves in Kenya", "CPA 069 – Charcoal Stoves in Kenya", "CPA 070 – Charcoal Stoves in Kenya", "CPA 071 – Charcoal Stoves in Kenya", "CPA 072 – Charcoal Stoves in Kenya", "CPA 073 – Charcoal Stoves in Kenya", "CPA 074 – Charcoal Stoves in Kenya", "CPA 075 – Charcoal Stoves in Kenya", "CPA 076 – Charcoal Stoves in Kenya", "CPA 077 – Charcoal Stoves in Kenya", "CPA 078 – Charcoal Stoves in Kenya", "CPA 079 – Charcoal Stoves in Kenya", and "CPA 080 – Charcoal Stoves in Kenya"; as described in the CPA-DDs /01-b/ is accurate and complete; meets the requirements to be included in the PoA titled "BioLite Improved Cook stoves Programme" /B03/ and correctly applies the baseline and monitoring methodology AMS-II.G, Version 03.0 /B05/.

Standard auditing techniques have been used for the validation of the project. An analysis, as provided by the applied methodology, demonstrates that the proposed CPAs are not a likely baseline scenario. Emission reductions attributable to the CPAs are additional to any that would occur in the absence of the project activity. Given that the CPAs are implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the CPA-DDs /01-b/.

The validation is based on the information made available to CCIPL, as well as the engagement conditions detailed in this report. The validation has been performed following the CDM VVS for PoAs requirements /B01-1/.

The validation was executed in the following steps so far:

- Receipt of CPA-DDs /01-)/
- Desk review of revised CPA-DDs
- Issue of checklist with corrective action requests (CARs) and clarification requests (CLs) and the draft validation report
- Interview with the CME
- Follow up actions (interviews) for cross checking data
- Review of responses for CARs/CLs
- Receipt of CPA-DDs /01-b/
- Issue of the final validation report

The CPAs correctly apply the baseline and monitoring methodology of the PoA namely AMS-II.G, Version 03, “Energy efficiency measures in thermal applications of non-renewable biomass” /B05/ and the Standardized Baseline ASB0035, version 01 /B06/.

The validation did not reveal any information that indicates that the CPAs can be seen as a diversion of ODA funding.

The CPA-DDs contain monitoring plan for the monitoring of the emission reductions from the project. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is CCIPL’s opinion that the project participants are able to implement the monitoring plan.

By the implementation of improved cooking stoves replacing the traditional cookstoves, the project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and provide long-term benefits to the mitigation of climate change.

During the course of validation a total of two (02) Corrective Action Requests (CARs) and five (05) Clarification Requests (CLs), for the CPAs, were identified on the initially submitted CPA-DDs /01-a/. All the CARs and CLs have been resolved by the CME.

The single purpose of this report is its use during the inclusion process (of the specific CPAs). The review of the CPA-DDs /01-b/, subsequent follow-up interviews and further verification of references have provided CCIPL, with sufficient evidence to determine the fulfilment of stated criteria in the PoA-DD /B03/ and the CPA-DDs /01-b/. In the opinion of CCIPL, the CPAs meet all relevant UNFCCC requirements for the CDM if the underlying assumptions do not change. CCIPL recommends the CPAs for inclusion in the approved revised PoA /B03/.

Appendix 1. Abbreviations

Abbreviations	Full Texts
BE	Baseline Emission
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
CL	Clarification Request
CME	Co-ordinating or Managing Entity
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
COP/MOP	Conference of Parties/ Meeting of Parties
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAO	Food and Agricultural Organization
FAR	Forward Action Request
GHG	Greenhouse Gas
GWh	Giga Watt Hours
I	Interview
ICS	Improved cook stoves
IPCC	Intergovernmental Panel on Climate Change
L	Leakage
LSC	Local Stakeholder Consultation
MoV	Means of Verification
MoC	Modalities of Communications
NCV	Net Calorific Value
NRB	Non-renewable Biomass
ODA	Official Development Assistance
PoA	Programme of Activities
PoA-DD	Programme of Activities design document
PP	Project Participant
PS	Project Standard
t	Tonne
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



Carbon Check (India) Private Ltd.

Sanjay Agarwalla

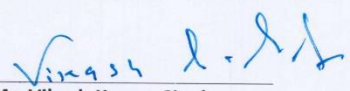
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

For following functions:

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

In the following Technical Areas:

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


Mr. Vikash Kumar Singh
Compliance Officer


Mr. Amit Anand
CEO

Date of Approval
24/12/2018

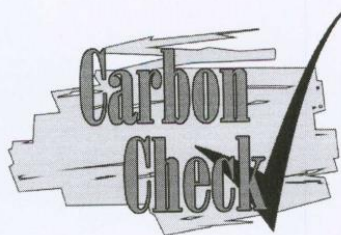
Valid Till
23/12/2019

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2016	Annual Revision
24/12/2017	Annual Revision
24/12/2018	Annual Revision

¹ India

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Tushar Eknath Choudhari

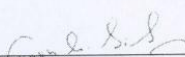
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

For following functions:

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

In the following Technical Areas:

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


Mr. Vikash Kumar Singh
Compliance Officer

Date of Approval
24/12/2018


Mr. Amit Anand
CEO

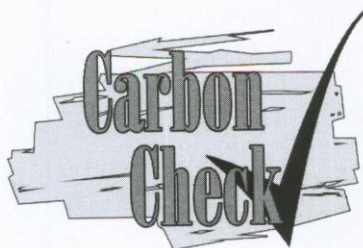
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Carbon Check (India) Private Ltd.

Vikash Kumar Singh

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

For following functions:

Validator ☒ Team Leader ☒ Technical reviewer ☒
 Verifier ☒ Technical Expert ☒ Local Expert¹ ☒

In the following Technical Areas:

TA 1.1 ☒ TA 3.1 ☒ TA 5.2 ☐ TA 9.2 ☐ TA 13.2 ☒
 TA 1.2 ☒ TA 4.1 ☒ TA 8.1 ☐ TA 10.1 ☐ TA 14.1 ☐
 TA 2.1 ☐ TA 5.1 ☐ TA 9.1 ☐ TA 13.1 ☒

Mr. Amit Anand
CEO

Date of Approval
24/12/2018

Valid Till
23/12/2019

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¹ India, South Africa

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Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
/01/	BioLite	a) Initial CPA-DDs: 7997-P1-0051-CP1 to 7997-P1-0080-CP1	Version 1, dated 21/10/2019	CME
		b) Final CPA-DDs: 7997-P1-0051-CP1 to 7997-P1-0080-CP1	Version 3.0, dated 02/12/2019	
/02/	BioLite	Emission reduction calculation spread-sheets for: a) /01-a/ b) /01-b/	--	CME
/03/	ICP	Evidence for the start date of the CPAs	Declaration letter from CME	CME
/04/	KIRDI	WBT Reports of each independent stove model under the CPAs efficiency tests performed by: KENYA INDUSTRIAL RESEARCH AND DEVELOPMENT INSTITUTE (KIRDI) for all ICSs models in the CPAs	-	CME
/05/	BioLite	Evidence for the technical specifications of the ICS models to be distributed in the CPAs	-	CME
/06/	BioLite	Evidence of a sample ICS with unique serial number	--	CME
/07/	BioLite	A self-declaration letter from CME stating the CPAs will be located in Kenya	Declaration letter from CME	CME
/08/	BioLite	A self-declaration from CME stating that the CPAs are not registered as any other individual CDM projects and are not CPAs in any other PoA	Declaration letter from CME	CME
/09/	BioLite	A self-declaration from CME stating that the target group in the proposed CPAs are the rural and urban households currently using inefficient biomass based traditional cook stoves in biomass deficient regions of Kenya	Declaration letter from CME	CME
/10/	BioLite	A self-declaration from the CME confirming that the CPAs do not use any investment which leads to diversion of ODA funds	Declaration letter from CME	CME
/11/	BioLite	Template of Warranty Registration Card containing provision for demonstrating of the following: <ul style="list-style-type: none"> Recording of ICS end user contact information Confirmation that ICS end user is a household in rural or urban area or Kenya Confirmation that the end user previously used three-stone fire and whether the baseline 	--	CME

		stove used grate / chimney <ul style="list-style-type: none"> Confirmation that the end user previously did not use LPG or kerosene 		
/12/	Relevant country Govt. Authority	Certificate of Incorporation for: <ul style="list-style-type: none"> CME (BioLite India Private Limited) The CPAs implementer (International Carbon Portfolio Ltd.) 	-	CME
/13/	BioLite	Agreement copy in between CME and CPAs' implementer	-	CME
/14/	BioLite	Agreement copy in between CME / CPA implementer and the stove manufacturer	-	CME
/15/	BioLite	Organizations chart for the PoA / CPA implementation and monitoring	-	CME
/16/	BioLite	Training manual, plans and records	-	CME
/17/	BioLite	CME manual	-	CME
/18/	BioLite	Implementation schedule for the CPAs	-	CME
/19/	BioLite	Sample template to be used during monitoring survey	-	CME
/20/	BioLite	Evidence for eligibility criteria number 11 (Calculation for SSC limit of the CPA, debundling check)	Emission reduction calculation spread-sheets for respective CPA	CME
/21/	BioLite	Calculation of 'f _{NRB} ' along with all supportings	-	CME
/B01/	UNFCCC	1. CDM Validation and Verification Standard for Programme of Activities (Version 02.0). 2. CDM Project Standard for Programme of Activities (Version 02.0) 3. CDM Project Cycle Procedure for Programme of Activities (Version 02.0)	http://cdm.unfccc.int/	UNFCCC
/B02/	UNFCCC	UNFCCC project page weblink: 1. For the PoA: https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/YNXCPIJ5ZO7DTRGMV0F2AKEU486LQS/view	http://cdm.unfccc.int/	UNFCCC
/B03/	BioLite	Approved Revised PoA-DD version 20, dated 16/11/2017 (PoA reference number 7997)	http://cdm.unfccc.int/	UNFCCC
/B04/	Earthood	PRC Validation Report for the PoA-DD, version 6.0 dated 21/11/2017		
/B05/	UNFCCC	AMS-II.G. Energy efficiency measures in thermal applications of non-renewable biomass (version 03.0)	http://cdm.unfccc.int/	UNFCCC
/B06/	UNFCCC	Standardized Baseline ASB 0035: Baseline woody biomass consumption for household cookstoves in Kenya (version 01.0)	http://cdm.unfccc.int/	UNFCCC
/B07/	UNFCCC	1. Component project activity design document form for	http://cdm.unfccc.int/	UNFCCC

		CDM component project activities (CDM-CPA-DD-FORM), (Version 09.0) 2. Instructions for filling out the component project design document form for CDM component project activities (Version 09.0)		
/B08/	UNFCCC	PoA Specific guidelines / standards / Forms published by UNFCCC: 1. Guidelines for sampling and surveys for CDM project activities and programme of activities (Version 02.0) 2. Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities (Version 03.0) 3. Guidelines on the demonstration of additionality of small-scale project activities (Version 09) 4. Guidelines on assessment of debundling for SSC project activities (Version 04)	http://cdm.unfccc.int/	UNFCCC
/B09/	UNFCCC	Glossary of CDM terms (version 10.0)	http://cdm.unfccc.int/	UNFCCC
/B10/	FAO (food and Agriculture Organization of United Nations)	The UNESCO report "Fighting desertification in Kenya, one tree at a time, 2006" pg.7 http://unesdoc.unesco.org/images/0019/001915/191578e.pdf#193846 FAO (2010): Global Forest Resources Assessment 2010, Country Report Kenya, p.9 and p.25, http://www.fao.org/docrep/013/a1543E/a1543E.pdf	2010	Others

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

Table 1. CLs from this validation

CL ID	01	Section no.	D.3	Date: 15/11/2019
Description of CL				
The sample calculations mentioned in the section A.8 of the CPA-DD are not consistent with energy savings in the debundling spreadsheet and the energy saving calculation in the spreadsheet are not correctly adjusted for leakage.				
CME response				Date: 28/11/2019
<i>The ER spreadsheet and section A.8 has been updated accordingly.</i>				
Documentation provided by CME				
Revised CPA-DD and ER spread sheet				
DOE assessment				Date: 01/12/2019
The stated values in the CPA-DDs are still not consistent with the submitted spread sheet. The CL remains open.				
CME response				Date: 02/12/2019
<i>The values in the CPA-DD have been corrected in order to be consistent with the ER spreadsheet.</i>				
Documentation provided by CME				
Revised CPA-DDs				
DOE assessment				Date: 03/12/2019
CME has submitted revised CPA-DDs with energy savings value consistent with the ER spread sheets. The CL is closed.				

CL ID	02	Section no.	D.3	Date: 15/11/2019
Description of CL				
CME is requested to confirm the entity name for the CPA implementer and parties involved and state the same consistently in all relevant sections of the CPA-DD.				
CME response				Date: 28/11/2019
<i>The entity name for the CPA implementer has been made consistent throughout the document.</i>				
Documentation provided by CME				
Revised CPA-DD				
DOE assessment				Date: 01/12/2019
The entity name of the CPA implementer has been correctly stated in the revised CPA-DD. The CL is closed.				

CL ID	03	Section no.	D.5.2	Date: 15/11/2019
Description of CL				
CME needs to confirm the source of the parameter "f _{NRB} ". In section B.4.2 of the CPA-DDs, for the ex-ante parameter "f _{NRB} ", CME has stated the source of data as "Non-Renewable Biomass Study for PoA 7997 in KenyaBioLite, June, 2019" whereas in the Additional comment it is stated as "Default value approved by the Kenya DNA on 19 September 2012". Clarification is requested.				
CME needs to confirm appendix 3 mentioned in the table for this parameter (which could not be found in the CPA-DDs).				
Furthermore, it is noted that circular referencing is done in the calculation spread sheet for "f _{NRB} ".				
CME response				Date: 28/11/2019
<i>Reference to the default value has been deleted. Appendix 3 was not referenced in this CPA (though it was referenced in the HomeStove CPAs and this has been now fixed). The circular reference has now been fixed in the ER sheet.</i>				
Documentation provided by CME				
Revised CPA DD version 02, Revised ER calculation sheet				
DOE assessment				Date: 01/12/2019
CME has calculated the value of f _{NRB} in line with the applied methodology using publicly available data. The calculation has been checked by the validation team and found to be appropriate. CME has submitted revised CPA-DDs and calculation spread sheet in this respect. The CL is closed.				

CL ID	04	Section no.	D.5.2	Date: 15/11/2019
Description of CL				

For the ex-ante parameter "Efficiency of the baseline cook stove", it has been stated in the CPA-DDs "According to the methodology, 0.10 default value may be optionally used if the replaced system is the three stone fire or a conventional system lacking improved combustion air supply mechanism and flue gas ventilation system i.e., without a grate as well as a chimney. The replaced systems in the project area are lacking improved combustion air supply mechanism and flue gas ventilation system. In instances where a three stone fire is not the baseline stove, or where the baseline stove has a grate or a chimney, 0.20 will be used".

Clarification is requested how will the final value be calculated and used for the calculation of emission reductions.

CME response	Date: 28/11/2019
At the time of distribution of each stove, the type of baseline technology is recorded. Prior to each verification, a weighted average value is calculated based on the type of baseline technology that has been replaced by averaging the two fixed values of 0.10 and 0.20. In actuality a baseline stove with a grate or chimney in Kenya is so rare that this has not proven to be an issue with previous CPAs. This has been reflected in more detail in table B.4.2.	
Documentation provided by CME	
Revised CPA-DD	
DOE assessment	Date: 01/12/2019
CME has clarified that the type of baseline stoves being replaced will be recorded in database and accordingly the weighted average for the baseline stove efficiency will be used for ER calculation. This is deemed acceptable to the validation team. CL is closed.	

CL ID	05	Section no.	D.5.2	Date: 15/11/2019
Description of CL				
For the ex-ante parameter "B _{old} ", the values used for rural and urban areas are two different values (0.76 kg/cap/y rural, 0.83 kg/cap/y urban). CME has assumed 50% urban and 50% rural population for calculating the value of Bold for ex-ante estimation of ERs. As the households for distribution of ICSs will involve mix of rural and urban areas, clarification is requested on how will the final value be calculated and used for the calculation of emission reductions.				
Furthermore, the sample calculation mentioned in the section 4.3 of CPA-DD, is not consistent with the provided ER calculations spreadsheet.				
CME response				Date: 28/11/2019
The CME has calculated Bold using the ex ante values for urban and rural proportions 48/52 level, which is consistent with the proportion between urban and rural observed during the last several CPAs that implement identical technology to these CPAs. With this value, a weighted average was calculated to calculate an ex ante value for B _{old} . For each ICS distributed, the urban / rural category will be recorded at the time of sale based on the address of the ICS beneficiary, and fixed for the entire crediting period for the corresponding ICS. This has been reflected in the CPA-DD.				
Documentation provided by CME				
Revised CPA-DDs				
DOE assessment				Date: 01/12/2019
CME has clarified that the stove distribution areas will be recorded and in database and accordingly the weighted average value will be used for ER calculation. This is deemed acceptable to the validation team. However, in the revised CPA-DD, CME has stated the calculated B _{old} values in "t/hh/y" whereas the applied ASB0035 stated the value in tonnes/person/year. CME needs to state the exact value and unit as per the applied standardised baseline. The CL remains open.				

Table 2. CARs from this validation

CAR ID	01	Section No.	D.2	Date: 15/11/2019
Description of CAR				
CPA-DD template completing guidelines have not been followed for the following:				
<ol style="list-style-type: none"> 1. In section A.3 of the CPA-DDs, CPA-DD completing guidelines have not been fulfilled. 2. In section C.1 of the CPA-DDs, CPA-DD completing guidelines has not been followed. 				
CME response				Date: 28/11/2019
<ol style="list-style-type: none"> 1. Useful lifetime has been added to this section where it was missing. This section now correctly presents the start date together with evidence of this submitted with this response.				
Documentation provided by CME				
Revised CPA-DDs				

DOE assessment	Date: 01/12/2019
CME has submitted revised CPA-DDs complying the CPA-DD completing guidelines. Hence the CAR is closed.	

CAR ID	02	Section no.	D.10	Date: 15/11/2019
Description of CAR				
The following findings are raised with respect to the eligibility criteria section of the CPA-DD:				
<ol style="list-style-type: none"> Each of the eligibility criteria must be same as stated in the PoA-DD without any deviation. Compliance for the eligibility criterion 07 has not been completely addressed. 				
CME response				Date: 28/11/2019
<ol style="list-style-type: none"> The eligibility criteria are in line with the PoA-DD 				
<i>Explanation around EIA has been added to criterion 7 in order to address this.</i>				
Documentation provided by CME				
Revised CPA-DDs				
DOE assessment				Date: 01/12/2019
Eligibility criterion 5 is still not in line with the PoA-DD.				
The CAR remains open.				
CME response				Date: 02/12/2019
<i>The CME has checked criterion 5 once again and found it to be in line with the PoA-DD.</i>				
Documentation provided by CME				
-				
DOE assessment				Date: 01/12/2019
Eligibility criteria is in line with the PoA-DD. The CAR is closed.				

Table 3. FARs from this validation

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

Appendix 5. Assessment of the response to the requirements of the eligibility criteria for inclusion of CPA into the PoA

No.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	Description of this CPA in relation to the criterion and supporting evidence	DOE Assessment
1.	Geographical boundaries	Each CPA will be located within the geographical boundary of India, Kenya or Uganda.	CPA-DD section A.2.	The proposed CPA is located in Kenya.	<p>Based on the review of the CPA-DDs /01-b/, a self declaration letter from the CME /07/ and off-site interviews, the validation team is able to confirm that the CPAs are located in Kenya.</p> <p>Conclusion: Based on the above assessment, validation team concludes that the subject CPAs comply with this eligibility criterion of the PoA.</p>
2.	Avoiding double counting	<p>For each CPA, CME will check for double counting. Tracking of cook stove will be done based on the unique identification using a serial number. With this serial number, a database will allow the CME to identify:</p> <ul style="list-style-type: none"> a) Acronym of programme b) Acronym of CME & CPA implementer c) Location of CPA <p>Monitoring the database (UNFCCC and other GHG ER standards) to check project activity does not generate offsets more than once simultaneously.</p>	Evidence of appropriate systems in place.	<p>The cook stove in the proposed CPA will be provided with unique identification number (Appliance ID or serial number) to ensure that each stove is only counted once.</p> <p>The CME has monitored the requisite databases and confirmed that the proposed SSC-CPA is not registered as any other individual CDM project and is not a CPA in any other PoA. Hence it is confirmed that the project activity does not generate offsets more than once simultaneously.</p>	<p>The validation team based on the review of the CPA-DDs /01-b/ and declaration from the CME /08/ confirms that there is no double counting of emission reductions due to the implementation/inclusion of the CPAs, as the CPAs do not belong to or are included in any other PoA or stand-alone CDM project. The validation team has cross-checked this from the UNFCCC website and interviews with representatives of CME and confirms that there is no double counting. Further, the double-counting risk is prevented by the unique serial number being assigned to each of the stoves to be distributed under the CPAs /06/. Furthermore, the validation team based on the review of CPA-DDs /01-b/ and CME manual /17/ confirms that in order to</p>

					<p>avoid double counting, the CME has adopted a provision of a record keeping system. The record keeping system for the proposed CPAs under the PoA includes detailed distribution information collected from end-user through registration process /11/.</p> <p>Conclusion: Based on the above assessment, validation team concludes that the CPAs comply with this eligibility criterion of the PoA.</p>
3.	Specification of technology / measure	<p>Each CPA will deploy rocket, efficient charcoal and/or gasifier technology/measures, which when implemented in India, will have the with following specifications duly certified by National Accreditation Board for Testing and Calibration Laboratories (NABL)¹ accredited / or a reputed laboratory:</p> <ol style="list-style-type: none"> Thermal efficiency of improved cook stove will be greater than or equal to 25% (IS Standard 13152 (Part I):1991 by the Bureau of Indian Standard) CO/CO₂ ratio will be less than 0.04² Total Solid particulate will be less than 2mg/m³ Surface temperature not exceeding 60°C Temperature of synthetic rubber/plastic components if 	Test results	<p>The four cookstoves, BioLite Jiko Malkia – 50.07%, EcoZoom Jiko Fresh - 36.21%, EcoZoom Jiko Bora - 37.74% and EcoZoom Jiko Bora Mama Yao - 40.40%, each fulfil the inclusion criterion.</p> <p>The other criteria were not addressed in this case because each of the other criteria apply to implementation in India, whereas this is being implemented in Kenya.</p>	<p>Based on review of CPA-DDs /01-b/, it is confirmed that the CPAs involve promotion and installation of ICS in residential households of rural / urban areas of Kenya and will utilise biomass. The ICSs to be implemented under the ten CPAs is HomeStove model with efficiency of 45.3%, in accordance with manufacturer's specifications /05/ and evidenced by a WBT conducted by an independent third party /04/.</p> <p>The other requirements are applicable to India only.</p> <p>Conclusion: Based on the above assessment, validation team concludes that the CPAs comply with this eligibility criterion of the PoA.</p>

¹ <http://www.nabl-india.org/>

² Except in the case of charcoal stoves, where the ratio should be less than 0.08

		<p>used shall not exceed 60°C.</p> <p>In addition to IS 13152 (Part I):1991</p> <ul style="list-style-type: none"> • Portable/fixed & stable energy efficient stove • Biomass savings of more than 50 % <p>CPAs in other countries will deploy stoves with technical parameters consistent with those outlined in the methodology being applied (ie with thermal efficiency at least 20%).</p>			
4.	Start date	<p>For each CPA</p> <p>The start date will be earliest date of</p> <ul style="list-style-type: none"> • Purchase order for the cook stoves • Start date is after the commencement of validation of PoA 	Purchase order or record of validation commencement	A purchase order for cook stoves has been presented as evidence of start date.	<p>The expected start date for the ten CPAs is 15/12/2019 as stated in the CPA-DDs /01-b/. CME has considered the start date as the date on which purchase order is expected to be placed for the first lot of stoves for the ten CPAs /03/. The validation team confirms that the start date is after the start date of the PoA.</p> <p>Conclusion: Based on the above assessment, validation team concludes that the CPAs comply with this eligibility criterion of the PoA.</p>
5.	Applicability of applied methodology	<p>Each CPA will satisfy the following applicability criteria described in approved methodology AMS II.G <i>Energy efficiency measures in thermal applications of non-renewable biomass version 03.</i></p> <p>a. This category comprises appliances involving the efficiency improvements in the</p>	<p>AMS-II.G:</p> <p>a. Evidence of qualifying technology</p> <p>b. Evidence of non-renewable biomass consumption since 31 December 1989.</p> <p>ASB0035</p>	<p>The proposed CPA satisfies the applicability condition described in version 3, of approved methodology AMS II.G <i>Energy efficiency measures in thermal applications of non-renewable biomass</i></p> <p>a. The efficiency of qualifying biomass fired cook stove</p>	<p>The complete assessment of methodological applicability of the proposed CPAs is provided in section D.4.1 above.</p> <p>Conclusion: Based on the above assessment, the validation team concludes that the subject CPAs comply with this</p>

		<p>thermal applications of non renewable biomass. Examples of these technologies and measures include the introduction of high efficiency³ biomass fired cook stoves⁴ or ovens or dryers and/or improvement of energy efficiency of existing biomass fired cook stoves or ovens or dryers.</p> <p>b. Project participants are able to show that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.</p> <p>If applicable (i.e., in the case of Kenya), each CPA will also satisfy the following applicability criteria as described in the standardized baseline ASB0035: Baseline woody biomass consumption for household cookstoves in Kenya</p>	<p>a. CPA-DD section A.2. b. Methodology applied c. Collected data demonstrating that the standardized baseline will not be applied to households using LPG or kerosene in the baseline. d. N/A</p>	<p>technology to be deployed in the proposed CPA is > 20%⁵. b. Many examples from published literature show how cutting and usage of non-renewable biomass have been a critical issue on the Kenyan territory in the last decades. In particular, UNESCO⁶ reported in 2006. how "Since independence in 1963, Kenya's forest cover has shrunk from 10% of its 582,650 km² territory to a mere 1.7%". Likewise, FAO data show a decline in forest areas and growing stock in forest land. In the last 20 years, the forested area in Kenya reduced by 0.35% per year between 1990 and 2000, by 0.34% per year between 2000 and 2005 and by 0.31% per year between 2005 and 2010⁷. Since Kenyan forests have been declining since at least 31 December, 1989, this means that biomass</p>	<p>eligibility criterion of the PoA.</p>
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³ The efficiency of the project systems as certified by a national standards body or an appropriate certifying agent recognized by it. Alternatively manufacturers' specifications may be used.

⁴ Single pot or multi pot portable or in-situ cook stoves with specified efficiency of at least 20%.

⁵ KENYA INDUSTRIAL RESEARCH AND DEVELOPMENT INSTITUTE (KIRDI), NAIROBI, KENYA, BIOLITE HOME STOVE TEST REPORT – 11TH MARCH 2016. KIRDI is an approved Regional Testing Center for the Global Alliance for Clean Cookstoves

⁶ UNESCO (2006). Fighting desertification in Kenya, one tree at a time. Courier, 3, p.7,

<http://unesdoc.unesco.org/images/0019/001915/191578e.pdf#193846>

⁷ Source: FAO (2010): Global Forest Resources Assessment 2010, Country Report Kenya, p.9 and p.25,

<http://www.fao.org/docrep/013/al543E/al543E.pdf>

		<p>(version 01.0)</p> <ul style="list-style-type: none"> a. The project activity is implemented in Kenya b. The approved CDM methodology that is applied to the project activity is small-scale methodology AMS-II.G “Energy efficiency measures in thermal applications of non-renewable biomass” and/or small-scale methodology AMS-I.E “Switch from non-renewable biomass for thermal applications by the user”; c. The standardized values are applicable to households using only firewood and/or charcoal in the pre-project scenario as a cooking fuel; households using LPG and/or kerosene in the pre-project scenario as a cooking fuel are not eligible to apply the standardized values in this document. d. It is not being applied to standalone renewable energy based water treatment technologies under AMS-I.E. 		<p>has been consumed at an unsustainable rate (ie non-renewable biomass has been consumed).</p> <p>(a) The proposed CPA satisfies the applicability criteria of standardized baseline ASB0035: Baseline woody biomass consumption for household cookstoves in Kenya (version 01.0) in the following ways:</p> <ul style="list-style-type: none"> a. The CPA is implemented exclusively in Kenya b. AMS-II.G. is the methodology being applied c. Any use of LPG and/or kerosene in the baseline scenario is recorded and no such households apply the standardized baseline d. Not applicable, since AMS-I.E. is not being applied. 	
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6.	Additionality	Each CPA will demonstrate the additionality by establishing that in the absence of CDM PoA, the CPA would not occur. This will be done using paragraph 9 of "Standard for the demonstration of additionality, development of eligibility criteria and application of multiple methodologies for Programme of Activities" EB 65 Annex 3,- PoAs that consist of one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Guidelines on the demonstration of additionality of small-scale project activities, version 09, Annex 27, EB 68 of the simplified modalities and procedures for small-scale CDM project activities.	Evidence as per "Guidelines on the demonstration of additionality of small scale project activities of the Simplified modalities and procedures for small scale CDM project activities"	As per Methodological tool Guidelines on the demonstration of additionality of small-scale project activities, version 09, Annex 27, EB 68, para 11section 2(c), the CPA is automatically additional because each unit is no larger than 5 per cent of the CDM small scale threshold. As calculated in section A.8. on debundling, each unit saves less than 1.8GWh per year per appliance (1% of the small scale threshold). Since each unit is less than 1% of the small scale threshold, each unit is also less than 5% of the small scale threshold, thus the criterion is satisfied and the CPA is automatically additional.	As per Methodological tool Guidelines on the demonstration of additionality of small-scale project activities, version 09, Annex 27, EB 68, para 11section 2(c), the CPA is automatically additional because each unit is no larger than 5 per cent of the CDM small scale threshold. As calculated in section A.8. on debundling, each unit saves less than 1.8GWh per year per appliance (1% of the small scale threshold). Since each unit is less than 1% of the small scale threshold, each unit is also less than 5% of the small scale threshold, thus the criterion is satisfied and the CPAs are automatically additional.
7.	Stakeholder consultation and environmental impact assessment	Each CPA will undertake local stakeholder consultations following : a. Identification of local stakeholders b. Invitation to local stakeholder consultation or meets c. Demonstrating the CPA project activity d. Inviting comments from stakeholders e. Minutes of the comments Environment Impact Analysis: The project activity does not fall under the purview of the Environmental Impact Assessment (EIA) notification of the Ministry of Environment and Forest,	Evidence of stakeholder consultation and EIA or exemption.	As per the accepted, revised PoA-DD, stakeholder consultations should be conducted for the first CPA-DD in each country, at the PoA level, and then not repeated in said country, so there was no stakeholder consultation for this CPA-DD since it was conducted during previously included CPAs in Kenya at the PoA level.	Valiation team confirms that the Stakeholders consultation and the EIA are to be carried out at PoA level. Hence further validation not required at CPA level. Conclusion: Based on the above assessment, validation team concludes that the subject CPAs comply with this eligibility criterion of the PoA.

		Government of India, 2006 . Similarly, an EIA is not required for this project activity in Kenya or Uganda . Hence, it is not required for this programme			
8.	No ODA diversion	Each CPA will demonstrate that no Official Development Assistance (ODA) is being used.	<p>This may be evidenced through any of the following:</p> <ul style="list-style-type: none"> a. Undertaking by CPA implementer to the coordinating /managing entity b. Certificate by CPA implementers Chartered Accountant provided after procurement of the equipment 	The proposed CPA does not use any Official Development Assistance (ODA) from other countries. The document submitted are Undertaking from CPA Implementer to the coordinating/managing entity.	<p>Based on the review of the CPA-DDs /01-b/, interviews and a self declaration letter from the CME /10/, validation team is able to confirm non involvement of any ODA funds in the CPAs..</p> <p>Conclusion: Based on the above assessment, validation team concludes that the subject CPAs comply with this eligibility criterion of the PoA.</p>
9.	Target group	The target group of each CPA will be rural and/or urban households currently using inefficient biomass based traditional cook stoves in biomass deficient regions. Each CPA implementer will market and sell cook stoves to target customers.	Described in CPA-DD	<p>The target group in the proposed CPA are the rural and urban households currently using inefficient biomass based traditional cook stoves in biomass deficient regions of Kenya.</p> <p>The CPA implementer will market and sell cook stoves to target customers. The cook stoves will be distributed / installed through CPA implementer's or partner's own / third party networks.</p>	<p>Based on the review of the CPA-DDs /01-b/, interviews, declaration letters from the CME /09/ and also the template of warrant registration card /11/, validation team is able to confirm that the target group for the distribution of ICS under the ten CPAs are the rural and urban households currently using inefficient biomass based traditional cook stoves in biomass deficient regions of Kenya.</p> <p>Conclusion: Based on the above assessment, validation team concludes that the subject CPA complies with this eligibility criterion of the PoA.</p>

10.	Sampling	<p>Each CPA will conduct sampling and surveying for baseline⁸ and monitoring of fuel usage and efficiency as appropriate or applicable based on requirements of</p> <ol style="list-style-type: none"> Sampling & survey methods described in the approved methodology AMS II.G, version 03, <i>Energy efficiency measures in thermal applications of non-renewable biomass</i> General guidelines for sampling and surveys for small-scale CDM project activities, EB 50, Annex 30, “Standard for sampling and surveys for CDM project activities and programme of activities”, version 03.0, Annex 4, EB 69 and “Guidelines for sampling and surveys for CDM project activities and programme of activities”, version 02.0, Annex 5, EB 69. 	Described in CPA-DD	<p>Since the baseline was established using default values for B_{old} and a calculated value based on publicly available data for f_{NRB}, no sampling was conducted in the baseline.</p> <p>Monitoring will be based on “Standard for sampling and surveys for CDM project activities and programme of activities”, version 03.0, Annex 4, EB 69 and “Guidelines for sampling and surveys for CDM project activities and programme of activities”, version 02.0, Annex 5, EB 69.</p>	<p>Based on the review of the CPA-DDs /01-b/ and interviews, the validation team is able to confirm that no sampling survey was done for baseline for the CPAs. However, sampling and survey methods will be applied for monitoring as per the approved methodology AMS-II.G, version 03, General guidelines for sampling and surveys for small-scale CDM project activities, EB 50, Annex 30 and Standard for sampling and surveys for CDM project activities and programme of activities, version 03.0, Annex 4, EB 69 and Guidelines for sampling and surveys for CDM project activities and programme of activities, version 02.0, Annex 5, EB 69.</p> <p>Conclusion: Based on the above assessment, validation team concludes that the subject CPA complies with this eligibility criterion of the PoA.</p>
11.	Small-scale threshold	<p>Each CPA will meet the following small-scale threshold criteria</p> <ol style="list-style-type: none"> Each CPA will have efficiency improvements not exceeding the equivalent of 180 gigawatt hours (GWh) per year every year throughout the crediting period. 	Confirmation by applying the equations outlined in the CPA-DD	<p>The cook stoves to be deployed in the proposed CPA will have the efficiency improvement of 179.46 GWh/year, which is less than the equivalent of 180 GWh_{thermal} per year. This check will be conducted each year, every year throughout the crediting period.</p>	<p>Based on the review of the ER calculation excel spread-sheets /02-b/, technical specifications of the ICS to be distributed under the ten CPAs, the validation team is able to confirm that the maximum energy savings per CPA is not beyond the threshold limit of 180 GWhth/year. Validation team based on assessment of the formulae and calculations confirms that the CPAs will not pass the</p>

⁸Baseline survey to establish fuel consumption patterns, prevalent technologies. Where appropriate, sampling across multiple CPAs is allowed.

					threshold of 180 GWhth/year. Conclusion: Based on the above assessment, validation team concludes that the subject CPA complies with this eligibility criterion of the PoA.
12.	Debundling	<p>Each CPA will not undergo debundling check as per EB 54 Annex 13, "Guidelines on assessment of debundling for SSC project activities" para 10</p> <p>a. If each of the independent subsystems/measures (e.g., biogas digester, solar home system) included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check i.e., considering as not being a de-bundled component of a large scale activity.</p> <p>The threshold to prove the activity is not a debundled action is deducted from the small scale threshold for each SSC-CPA, which corresponds to 180GWh⁹ thermal energy per year as follows: 1% of 180GWh = 1.8GWh. This will be demonstrated in section A.8. of each SSC-CPA DD.</p>	Confirmation by calculating thermal output of one independent subsystem/measure.	The thermal energy savings of the proposed CPA is 0.0105 GWh/appliance (calculation is demonstrated in section A.8. which is less than the threshold of 1.8 GWh/y/appliance. Hence this CPA will not undergo debundling check.	<p>Based on the review of the CPA-DDs /01-b/, ER spread sheets /02-b/, ICS specifications /05/ including their efficiencies /04/, the validation team is able to confirm that the energy savings per stove is well below the prescribed limit 1% of the small scale limit. Hence in accordance with the Guidelines on assessment of debundling for SSC project activities (Version 03) /B08-4/, debundling check is further not required.</p> <p>Conclusion: Based on the above assessment, validation team concludes that the subject CPA complies with this eligibility criterion of the PoA.</p>

⁹ As clarified in SSC_223, [The SSC WG agreed to clarify therefore AMS-II.G is applicable to project activities with maximum thermal energy savings of 180 GWh per year.](#)

Appendix 6. Validation Protocol for proposed CPA Inclusion into the PoA

Conformity of Component Project Activities

CDM-CPA-DD Requirements Checklist

CPA 051 – Charcoal Stoves in Kenya to CPA 080 – Charcoal Stoves in Kenya

Table 1: CDM-CPA-DD / CDM-SSC-CPA-DD Requirements Checklist ((based on § 37 of the CDM Modalities and Procedures and on VVS , Project Standard and Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities,))

Checklist	Comment	Ref.	Draft Concl.	Final Conc.
<i>Specific requirements of CPA</i>				
<i>SECTION A. General description of CPA</i>				
<i>A.1. Title of the proposed or registered PoA</i>				
A.1.1. Is the reference and title of the PoA to which this CPA is included provided?	Yes, the reference number of the PoA has been provided in this section.	/01-(a)/	OK	OK
<i>A.2. Title of the CPA</i>				
A.2.1. Is the title of the CPA and the unique identification of the CPA Indicated?	Yes, the title of the CPA and the unique identification of the CPA has been appropriately indicated.	/01-(a)/	OK	OK
A.2.2. Is the current version number of the CPA-DD Indicated?	Yes, the current version number of CPA-DD has been provided in this section.	/01-(a)/	OK	OK
A.2.3. Is the date the CPA-DD was completed (DD/MM/YYYY) Indicated?	Yes, the date of completion of CPA-DD has been provided in this section.	/01-(a)/	OK	OK
<i>A.3. Description of the CPA</i>				
A.3.1 Is the description of the technology(ies) and/or measures used by the CPA is in accordance with the proposed or registered PoA, and in accordance with the applicable provisions in the Project standard?	Yes, the description of the technology and/or measure used by the CPA is in accordance with the proposed or registered PoA, and the applicable provisions in the Project standard.	/01-(a)/	OK	OK
<i>A.4 Entity/individual responsible for CPA</i>				
A.4.1.1 Is the information on the CPA implementer(s) provided? (CPA implementers can be project participants of the PoA, under which the CPA is submitted, provided)	Yes, appropriate information on the CPA implementer has been provided. However, CL 01 is raised.	/01-(a)/	OK	OK
A.4.1.2 Is the name of CPA implementers included in the CPA is consistent with the proposed/ registered PoA?	No, the name of CPA implementer included in the CPA is not consistent with the registered PoA. For this CPA the CPA implemetor is International Carbon Portfolio Limited.	/01-(a)/	OK	OK
<i>A.5 Technical description of the CPA</i>				
A.5.1. Is the description the technologies and/or measures to be employed and/or implemented by the CPA including a list of the facilities,	Yes, the description of the technologies and/or measures to be employed and/or implemented by the CPA including a list of	/01-(a)/, /B03/	OK	OK

systems and equipment that will be installed and/or modified by the CPA provided?	the facilities, systems and equipment that will be installed and/or modified by the CPA has been appropriately provided.			
A.5.2 Does the description includes;				
A.5.2.1 A list and the arrangement of the main manufacturing/production technologies, systems and equipment involved provided?	Not Applicable	/01-(a)/, /B05/	OK	OK
A.5.2.2 information about the age and average lifetime of the equipment based on manufacturer's specifications and industry standards, and existing and forecast installed capacities, load factors and efficiencies?	Yes, information about the age and average lifetime of the equipment is based on manufacturer's specifications. However, CAR 01 have been raised.	/01-(a)/	CAR 01	OK
A.5.2.3 The monitoring equipment detail and their location in the systems. Does the monitoring detail provided are complete to measure all data and parameters such that Emission reduction can be measured or calculated?	Not Applicable	/01-(a)/, /B05/	OK	OK
A.5.2.4 Energy and mass flows and balances of the systems and equipment included in the CPA?	Not Applicable	/01-(a)/, /B05/	OK	OK
A.5.2.5 The types and levels of services (normally in terms of mass or energy flows) provided by the systems and equipment that are being modified and/or installed under the CPA and their relation, if any, to other manufacturing/production equipment and systems outside the project boundary?	Not Applicable	/01-(a)/, /B05/	OK	OK
A.5.2.6 if the types and levels of services provided by those manufacturing/production systems and equipment outside the project boundary also constitute important parameters of the description. Does the description clearly explain how the same types and levels of services provided by the CPA would have been provided in the baseline scenario?	Not Applicable	/01-(a)/, /B05/	OK	OK
A.5.3 Does the description contains a list of:-				
A.5.3.1 Facilities, systems and equipment in operation under the existing scenario prior to the implementation of the CPA?	Yes, this section contains description of systems/equipment in operation under the existing scenario prior to the implementation of the CPA.	/01-(a)/, /B05/	OK	OK
A.5.3.2 Facilities, systems and equipment in the baseline scenario?	Yes, this section contains description of systems/equipment in operation existing in the baseline scenario.	/01-(a)/, /B05/	OK	OK

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A.5.3.3 In case the baseline scenario is a continuation of current practice. Is it stated that both the scenarios are same?	Yes, the baseline scenario is a continuation of current practice.	/01-(a)/ /B05/	OK	OK
A.5.3.4 Does the information provides the purpose of the CPA and how it reduces GHG emissions?	Yes, information provided describes the purpose of the CPA and how it reduces GHG emissions.	/01-(a)/ /B05/	OK	OK
A.6. Party(ies)				
A.6.1 Does the Party (ies) and CPA implementer(s) involved in the CPA provided in tabular format and in Appendix 1 Consistent and the contact information complete?	Yes, the Party and CPA implementer involved in the CPA has been provided in tabular format. However, it is inconsistent with the information contained in Appendix 1. CL 01 is raised.	/01-(a)/	CL-01	OK
A.7. Geographic reference or other means of identification				
A.7.1 Is the geographic reference or other means of identification that allows for the unique identification of the CPA provided? (maximum in one page)?	Yes, appropriate geographic reference has been provided which allows for the unique identification of the CPA provided.	/01-(a)/	OK	OK
A.8. Duration of the CPA				
A.8.1 Start date of the CPA				
A.8.1 Is the start date provided in (DD/MM/YYYY) format?	Yes, the start date has been provided in the DD/MM/YYYY format.	/01-(a)/	OK	OK
A.8.1 Does the description, of how the start date was determined and is in line with the definition of start date in "Glossary of CDM terms" and provided in POA-DD?	No, CME has not mentioned the description of how the start date was determined has been provided and is further in line with the definition of start date in "Glossary of CDM terms" and Instructions for completing this form CPA-DD. However, CAR 01 has been raised.	/01-(a)/	CAR-01	OK
A.8.2 Expected operational lifetime of the CPA				
A.8.2.1 Is the expected operational lifetime of the CPA stated in years and months?	Yes, the expected operational lifetime of the CPA stated in years.	/01-(a)/	OK	OK
A.9. Choice of the crediting period and related information				
Does the type of crediting period renewable or Fixed chosen and clearly stated?	The type of crediting period chosen is renewable and is clearly stated.	/01-(a)/	OK	OK
A.9.1 Choice of the crediting period and related information				

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Is the expected start date of the crediting period of the CPA indicated in (DD/MM/YYYY) format, and line with PoA?	Yes, the expected start date of the crediting period of the CPA has been indicated in (DD/MM/YYYY) format and is line with PoA.	/01-(a)/	OK	OK
A.9.2 Length of the crediting period				
A.9.2.1 Is the length of the crediting period chosen clearly indicated?	Yes, the length of the crediting period chosen is 7 years and 00 months has been clearly indicated.	/01-(a)/	OK	OK
A.9.2.1.1 In case a renewable crediting period is chosen, does the length of the first crediting period and the number of renewal periods provided?	Yes, renewable crediting period is chosen and the length of the first crediting period. However, CME has mentioned the number of renewal periods.	/01-(a)/	OK	OK
A.9.2.1.2 Does the total renewal periods comply and do not exceed the PoA validity period?	Yes, the total renewal periods comply and do not exceed the PoA validity period.	/01-(a)/	OK	OK
A.10 Estimated amount of GHG emission reductions				
Does the estimated annual GHG emission reductions for each year of the crediting period and, the annual average and the total GHG emission reductions over the chosen crediting period (or the first crediting period) provided in the table?	Yes, the estimated annual GHG emission reductions for each year of the crediting period and, the annual average. However, the total GHG emission reductions over the chosen crediting period (or the first crediting period) have not been provided in the table. CAR 01 have been raised.	/01-(a)/	CAR-01	OK
A.11. Public funding of the CPA				
A.11.1 Does the PoA receives public funding from Parties included in Annex I?	No, the PoA does not receive public funding from Parties included in Annex I.	/01-(a)/	OK	OK
A.11.2 if the PoA receives public funding from Parties included in Annex I, is the information on Parties providing public funding Provided in Appendix 2 and the affirmation obtained from such Parties is in accordance with applicable provisions related to official development assistance in the Project standard?	Not Applicable	/01-(a)/	OK	OK
A.12. Confirmation for CPA				
A.12. Does the description include and confirm that the CPA is neither registered as an individual CDM project activity nor is part of another registered PoA?	Yes, the description includes and further confirms that the CPA is neither registered as an individual CDM project activity nor is part of another registered PoA.	/01-(a)/	OK	OK
SECTION B. Environmental analysis				

B.1. Analysis of the environmental impacts				
B.1.1 Is the analysis of the environmental impacts required and is undertaken,	No, analysis of the environmental impacts is not mandatory as per host party regulations.	/01-(a)/	OK	OK
B.1.2 Does the description and the analysis of environmental impacts undertaken is as per the PoA.	Not Applicable	/01-(a)/	OK	OK
B.2. Environmental impact assessment				
B.2.1. Is an environmental impact assessment required?	No, EIA is not mandatory as per host party regulations.	/01-(a)/	OK	OK
B.2.1.1 Does the assessment of the requirement of Environmental impact assessment and the conclusion & related references to all documentation provided?	Not Applicable	/01-(a)/	OK	OK
B.2.2 In case the section B1and B.2 is kept blank. Is it indicated and confirmed that the environmental analysis is provided at the PoAlevel.	Not Applicable	/01-(a)/	OK	OK
SECTION C. Local stakeholder comments				
C.1. Solicitation of comments from local stakeholders				
C.1 Is the detail of process by which comments from local stakeholders have been invited for the CPA described?	Local Stakeholder Consultation was conducted at PoA level. Thus, this section is Not Applicable. However, CL 06 has been raised.	/01-(a)/, /B03/	CL-06	OK
C.2. Summary of comments received				
C.2 Are all stakeholders that have made comments Identified and Is the summary of these comments provided?	Not Applicable	/01-(a)/, /B03/	OK	OK
C.3. Report on consideration of comments received				
C.3.1 Does the information provided demonstrate that all comments received have been considered?	Not Applicable	/01-(a)/, /B03/	OK	OK
C.3.2. In case the section C1 and C.2 is kept blank. Is it indicated and confirmed that the stakeholder consultation information is provided at the PoA level?	Not Applicable	/01-(a)/, /B03/	OK	OK
SECTION D. Eligibility of CPA and estimation of emissions reductions				
D.1. Title and reference of the approved baseline and monitoring methodology(ies) selected.				
D.1. Is the exact methodology(ies) Identified and reference& title of the approved methodology provided?	Yes, CME has provided the UNFCCC reference of the applied methodology.	/01-(a)/	OK	OK
D.2. Application of methodology(ies)				

D.2.1 Is it demonstrated how the applicability conditions of the approved methodology(ies) and the PoA are met?	Yes the CME has demonstrated the applicability conditions of the methodology.	/01-(a)/	OK	OK
D.2.2 Has the documentation that has been used provided and explained? Is the reference of documentation included in Appendix 3?	Yes, appropriate documentation has been provided and explained. The references have been included in Appendix-3 of this report.	/01-(a)/	OK	OK
D.3. Sources and GHGs				
D.3.1 Does all the sources and GHGs included in the CPA boundary Described in accordance with the PoA?	The description of project boundary provided is complete and as per the narrative provided in the applied methodology.	/01-(a)/	OK	OK
D.3.2 Does the proof which shows that the CPA is located within the geographical boundary of the proposed or registered PoA Provide?	Yes, the proof which shows that the CPA is located within the geographical boundary of the proposed or registered PoA has been mentioned and provided.	/01-(a)/	OK	OK
D.3.3. Does all emission sources and GHGs included in the CPA boundary described, explained and justified using the table provided?	Yes, all emission sources and GHGs included in the CPA boundary described are explained and justified using the table provided.	/01-(a)/	OK	OK
D.3.4 Does the section Include a flow diagram of equipment, energy and mass flows based on the description provided in section A.5. of CPA-DD?	Yes, this section includes sources of GHG based on the description provided in section B.2. of CPA-DD. The section numbering has changed from A.5 to B.2 as the CPA-DD form has been revised.	/01-(a)/	OK	OK
D.4. Description of the baseline scenario				
D.4 Is the description of the baseline scenario and its identification for the CPA is in accordance with the PoA?	Yes, the description of the baseline scenario and its identification for the CPA is in accordance with the PoA.	/01-(a)/, /B03/	OK	OK
D.5. Demonstration of eligibility for a CPA				
D.5.1 Does CPA meets each of the eligibility criteria of the PoA including confirmation of additionality of the CPA for its inclusion into the PoA? Please provide assessment for each of the eligibility criteria as per the proposed or registered PoA DD, the eligibility criteria shall cover (unless differently mentioned in the registered PoA DD, if the registered PoA DD provides different set of eligibility criteria, consider those in the below row) a minimum the following :	Yes, the CPA meets each of the eligibility criteria of the PoA including confirmation of additionality of the CPA for its inclusion into the PoA. However, CAR 02 have been raised.	/01-(a)/, /B03/	CAR-02	OK
(a) The geographical boundary of the CPA including any time-induced boundary # consistent with the geographical boundary set in the PoA # For example, an emission factor for electricity generation is dependent	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in	/01-(a)/, /B03/	OK	OK

on the boundaries of regional or state or sub-regional grids.	Appendix-5 for further details.			
(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK
(c) The specifications of technology/measure # including the level * and type of service, performance specifications including compliance with testing/certifications; # Specifications of the technology/measure shall include the type, capacity and other key features of the design of the systems. For example, indicating the installed capacity (in kW), size or dimensions, fixed/portable operation, and other key design features that makes the project cook stoves efficient, would be appropriate; however, only indicating that all cook stoves will have an efficiency X% would not be sufficient. * The level of service shall be defined in comparison with the baseline system being replaced.	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details. However, CL 04 has been raised.	/01-(a)/, /B03/	CL-04	OK
(d) Conditions to check the start date of the CPA through documentary evidence;	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK
(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK
(f) The conditions that ensure that the CPA meets the requirements pertaining to the demonstration of additionality as assessed in section B.1 above;	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK
(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;# # See also relevant paragraphs of "CDM project cycle procedure".	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK

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(h) Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance;	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK
(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation) \$; \$ This is to re-test the validity of assumptions made at the PoA level. For example, in a lighting efficiency application, lighting usage hours of 3.5 hours per day would be valid if the target group is residences/households. Usage hours would be different in commercial applications and vice versa.	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK
(j) Where applicable, the conditions related to sampling requirements for the PoA in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities";	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK
(k) Where applicable, the conditions that ensure that every CPA meets the small- scale or microscale threshold # and remains within those thresholds throughout the crediting period of the CPA. However, for a CPA that consists of only units that qualify as 'microscale CDM units' as defined in the methodological tool "Demonstration of additionality of microscale project activities", this condition is not required; # Please refer to the latest approved version of the methodological tool "Demonstrating additionality of microscale project activities" and the latest approved version of the "General Guidelines to SSC CDM methodologies".	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK
(l) Where applicable, the requirements for the debundling check, in case the CPA belongs to small-scale or microscale project categories #. However, if a CPA solely consists of 'microscale CDM units', the requirement regarding debundling is not applicable. # Please refer to the latest approved version of the methodological tool "Assessment of debundling for small-scale project activities".	The demonstration of the CPA's compliance with this eligibility criterion has been successfully made by the CME. Refer to the assessment provided in Appendix-5 for further details.	/01-(a)/, /B03/	OK	OK

D.6. Estimation of emission reductions				
D.6.1.Explanation of methodological choices				
D.6.1.1 Is Explanation and justification for the methods and/or methodological steps, based on the applied methodology, for calculating baseline emissions applied to the CPA provided?	Yes, explanation and justification for the methods and/or methodological steps for calculating baseline emissions applied to the CPA have been provided in accordance with the applied methodology.	/01-(a)/, /B03/	OK	OK
D.6.1.2Is Explanation and justification for the methods and/or methodological steps, based on the applied methodology, for calculating, project emissions, are applied to the CPA provided?	Not Applicable	/01-(a)/, /B03/	OK	OK
D.6.1.3Is Explanation and justification for the methods and/or methodological steps, based on the applied methodology, for calculating, leakage emissions and emission reductions applied to the CPA provided?	Not Applicable	/01-(a)/, /B03/	OK	OK
D.6.1.4 Is Explanation and justification for the methods and/or methodological steps, based on the applied methodology, for calculating, emission reductions applied to the CPA provided?	Yes, explanation and justification for the methods and/or methodological steps, based on the applied methodology, for calculating, emission reductions applied to the CPA have been provided.	/01-(a)/, /B03/	OK	OK
D.6.1.5 Is the equation for calculating the emission reductions for CPA is in line with the methodology and the PoA?	Yes, the equation for calculating the emission reductions for CPA is in line with the methodology and the PoA.	/01-(a)/, /B03/	OK	OK
D.6.2. Data and parameters that are to be reported ex-ante				
D.6.2.1 Does the compilation of information on the data and parameters that are not monitored during the crediting period but are determined before the registration and remain fixed throughout the crediting period described and provided?	Yes, the compilation of information on the data and parameters that are not monitored during the crediting period but are determined before the registration and remain fixed throughout the crediting period has been described and provided. However, CAR 01 CL 02, CL 03 and CL 04 have been raised.	/01-(a)/, /B03/	CAR-01, CL-02 CL-03 CL-04	OK
D.6.2.2. Is the compilation of information for data that are measured or sampled, and data that are collected from other sources (e.g. official statistics, expert judgment, proprietary data, IPCC, commercial and scientific literature, etc.) are complete and as per the methodology and applicable conditions?	Yes, the compilation of information for data that are measured or sampled, and data that are collected from other sources are complete and as per the methodology and applicable conditions	/01-(a)/, /B03/	OK	OK
D.6.2.3. Are all data or parameter, complete with respect to the: "Value(s) of data applied, Choice of data, Purpose of data, Measurement methods	Yes, all data or parameters are complete with respect to the: "Value(s) of data applied,	/01-(a)/	OK	OK

and procedures to enable Calculation of baseline emissions; Project Emission, Leakage Emission, Emission Reduction? Please list all ex-ante parameters (as below) along with their values and provide an assessment on its appropriateness.	Choice of data, Purpose of data, Measurement methods and procedures to enable calculation of baseline emissions; project emissions, and emission reductions.			
Parameter: η_{old} Value: 0.1 (if the replaced system is the three stone fire or a conventional system without a grate as well as a chimney) 0.2 (where the baseline stove has a grate or a chimney) Source of value: Default value as per AMS-II.G. Version 03.0)	The validation team reviewed the reference source and deems the value to be appropriate. Refer to section D.5.2 for detailed assessment. However, CL 03 have been raised.	/01-(a)/	CL-03	OK
Parameter: $NCV_{biomass}$ Value: 0.015 TJ/tonne Source of value: default value of applied methodology AMS-II.G (version 03)	The validation team reviewed the reference source and deems the value to be appropriate. Refer to section D.5.2 for detailed assessment.	/01-(a)/	OK	OK
Parameter: $EF_{projected_fossilfuel}$ Value: 81.6 tCO ₂ /TJ Source of value: default value of applied methodology AMS-II.G (version 03)	The validation team reviewed the reference source and deems the value to be appropriate. Refer to section D.5.2 for detailed assessment.	/01-(a)/	OK	OK
Parameter: L_y Value: 0.95 Source of value: default value of applied methodology AMS-II.G (version 043)	The validation team reviewed the reference source and deems the value to be appropriate. Refer to section D.5.2 for detailed assessment.	/01-(a)/	OK	OK
Parameter: B_{old} Value: 0.76 kg/cap/y rural, 0.83 kg/cap/y urban Source of value: Standardized Baseline ASB0035, version 01	The validation team reviewed the reference source and deems the value to be appropriate. Refer to section D.5.2 for detailed assessment. However, CL 04 have been raised.	/01-(a)/	CL04	OK
Parameter: $f_{NRB,y}$ Value: 0.9272 Source of value: UNFCCC published default value for Kenya	The validation team reviewed the reference source and deems the value to be appropriate. Refer to section D.5.2 for detailed assessment.	/01-(a)/	CL-02	OK

	However, CL 02 have been raised.			
D.6.3. Ex-ante calculation of emission reductions				
D.6.3.1. Is ex ante calculation of project emissions, baseline emissions, Leakage emissions and /or Emission reduction expected during the crediting period, Provided in a transparent manner based on data or parameters (in the table in section D.6.2 above) applying all relevant equations provided in the selected methodology?	Yes, the ex-ante calculation of baseline emissions and Emission reduction expected during the crediting period are provided in a transparent manner based on data or parameters (in the table in section D.6.2 above) applying all relevant equations provided in the selected methodology.	/01-(a)/	OK	OK
D.6.3.2 If any of these estimates has been determined by a sampling approach, then are the descriptions of the sampling efforts undertaken (in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities") Provided?	Yes, in cases where estimates have been determined by a sampling approach the descriptions of the sampling efforts undertaken have been provided.	/01-(a)/	OK	OK
D.6.3.3. Are the documentation of each equation applied, represented in a manner that enables the reader to reproduce the calculation?	Yes, the documentation of each equation applied is represented in a manner that enables the reader to reproduce the calculation.	/01-(a)/	OK	OK
D.6.3.4. Are the relevant, additional background information and/or data (including relevant electronic) spreadsheet provided in Appendix 4?	Not Applicable	/01-(a)/	OK	OK
D.6.3.5 Is a sample calculation for each equation used, substituting the values used in the equations Provided?	Yes, a sample calculation for each equation used, substituting the values used in the equations has been provided.	/01-(a)/	OK	OK
D.6.4. Summary of the ex-ante estimates of emission reductions				
Is the summary of all ex-ante estimation of Baseline Emission, Project Emission, Leakage Emission and Emission Reduction provided in accordance with given table?	No, the summary of all ex-ante estimation of Baseline Emission and Emission Reduction is not provided in accordance with given table. CAR 01 have been raised in this regards.	/01-(a)/	CAR-01	OK
D.7. Application of the monitoring methodology and description of the monitoring plan				
D.7.1. Data and parameters to be monitored				
D.7.1.1. Is the specific information related to procedures for measurement, monitoring, recording, collected, archiving of data and parameters that is required for estimation and calculation of Emission Reduction provided?	Yes, the specific information related to procedures for measurement, monitoring, recording, collected, archiving of data and parameters that is required for estimation and calculation of Emission Reduction have been provided.	/01-(a)/	OK	OK
D.7.1.2 Are all data or parameter, complete with respect to the: "Value(s)	Yes, all data or parameter are complete with	/01-(a)/	CAR-01	OK

of data applied, Choice of data, Purpose of data, Measurement methods and procedures, QA/QC procedures to enable Calculation of baseline emissions; Project Emission, Leakage Emission, Emission Reduction ?	respect to the: “Value(s) of data applied, Choice of data, Purpose of data, Measurement methods and procedures, QA/QC procedures to enable Calculation of baseline emissions; Project Emission, and Emission Reduction. However, CAR01 have been raised.				
D.7.1.3 Are the relevant, additional background information on data and parameters to be monitored is provided in Appendix 5?	Not Applicable.		/01-(a)/	OK	OK
D.7.1.4 Is the list of parameters presented in section B.7.1 (Part II of PoA-DD) considered to be complete with regards to the requirements of the applied methodology?					
Parameter: N_y	Monitoring Checklist	Yes / No / NA	/01-(a)/, /B03/	OK	OK
	Title and description in line with methodology?	Yes			
	Data unit correctly stated?	Yes			
	Source clearly referenced?	Yes			
	Correct value provided for estimation?	Yes			
	Has this value been verified?	Yes			
	Measurement method and procedure correctly described?	Yes			
	Purpose of data correctly described	Yes			
	Additional comments (if any)	NA			
Parameter: $\eta_{new,i}$	Monitoring Checklist	Yes / No / NA	/01-(a)/, /B03/	OK	OK
	Title and description in line with methodology?	Yes			
	Data unit correctly stated?	Yes			
	Source clearly referenced?	Yes			
	Correct value provided for estimation?	Yes			
	Has this value been verified?	Yes			
	Measurement method and procedure correctly described?	Yes			
	Purpose of data correctly	Yes			

	described				
	Additional comments (if any)	NA			
Parameter: Continuous use of baseline stoves	Monitoring Checklist	Yes / No / NA	/01-(a)/, /B03/	OK	OK
	Title and description in line with methodology?	Yes			
	Data unit correctly stated?	Yes			
	Source clearly referenced?	Yes			
	Correct value provided for estimation?	Yes			
	Has this value been verified?	Yes			
	Measurement method and procedure correctly described?	Yes			
	Purpose of data correctly described	Yes			
	Additional comments (if any)	NA			
Parameter: By savings	Monitoring Checklist	Yes / No / NA	/01-(a)/, /B03/	OK	OK
	Title and description in line with methodology?	Yes			
	Data unit correctly stated?	Yes			
	Source clearly referenced?	Yes			
	Correct value provided for estimation?	Yes			
	Has this value been verified?	Yes			
	Measurement method and procedure correctly described?	Yes			
	Purpose of data correctly described	Yes			
	Additional comments (if any)	NA			

D.7.2. Description of the monitoring plan				
D.7.2.1 Is the description of the monitoring plan for the CPA provided in accordance with the approved monitoring methodology (ies) and PoA?	Yes, the description of the monitoring plan for the CPA is provided in accordance with the approved monitoring methodology and PoA.	/01-(a)/, /B03/	OK	OK
D.7.2.2 In case the data and parameters to be monitored determined by sampling approach, are the description of sampling plan provided in accordance with the recommended outline for a sampling plan in the "Standard for sampling and surveys for CDM project activities and programme of activities"?	Yes, for the data and parameters to be monitored determined by sampling approach, the description of sampling plan is provided in accordance with the recommended outline for a sampling plan in the "Standard for sampling and surveys for CDM project activities and programme of activities."	/01-(a)/	OK	OK
D.7.3 Consistency check and font size	Yes all the information is consistent and font size is accurate. However, CAR 01 have been raised.	/01-(a)/	CAR-01	OK
D.7.3.1 Does the following key terms and there description is consistent within the various section of the PoA-DD? P.S.: Additional rows may be added if required.				
D.7.3.1.1. CME and Participants of PoA	Yes, the description of CME and Participants of PoA is consistent within the various sections of the PoA-DD.	/01-(a)/	OK	OK
D.7.3.1.2. Description/ Technology or measures to be employed by the CPA	Yes, the description of Technology or measures to be employed by the CPA is consistent within the various sections of the PoA-DD.	/01-(a)/	OK	OK
D.7.3.1.3. Target group (end users type)	Yes, the Target group (end user type) listed are consistent within the various sections of the PoA-DD.	/01-(a)/	OK	OK
D.7.3.1.4. Eligibility criteria for inclusion of a CPA	No, the Eligibility criteria for inclusion of a CPA is not consistent within the various sections of the PoA-DD. However, CAR 02 has been raised	/01-(a)/	CAR-02	OK
D.7.3.2. Is the font size in all the respective documents is as per the requirements of Instructions for filling out the programme design document form for small-scale/large scale CDM programmes of activities?	Yes, the font size in all the respective documents is as per the requirements of Instructions for filling out the programme design document form for small-scale/large scale CDM programmes of activities	/01-(a)/	OK	OK

Appendix 7: Sampling Protocol for Validation of Programme of Activities (PoA)/Project Activities (PA)

Sl. No.	Checklist Questions	Assessment
1.	Does the PoA/PA opt for sampling for determination of any ex-ante parameters?	No, the CPAs do not opt sampling for determination of any ex-ante parameters. Please refer to the assessment in section D.5.2 of this report.
2.	Was the sample chosen by PP for determination of ex-ante parameters representative? P.S.: The justification on representativeness shall address at the minimum the following: (a) Religious diversity (b) Ethnic diversity (c) Gender diversity (d) Economic diversity (e) Regional diversity (f) Seasonal fluctuations/variations (g) Diverse age-groups	Not applicable.
3.	Has VT applied acceptance sampling approach to validate that sampling/survey efforts undertaken by PP to determine the ex-ante parameters were determined correctly? If yes, please provide a detailed justification of the approach adopted including information on (but not limited to): (a) Selected AQL Level (b) Selected UQL Level (c) Selected Consumer Risk Level (d) Selected Producer Risk Level (e) Sample Size chosen for acceptance sampling (f) Acceptance number (c) (g) Approach adopted by VT to in case value of greater than c discrepant records were observed in the sample	Not applicable.
4.	Does the PoA-DD/PDD opt for sampling approach for monitoring of ex-post parameters?	Not applicable as the CPA-DDs follow the sampling plan of the approved revised PoA-DD
5.	Does the PoA-DD/PDD provide a sampling plan for determination of ex-post parameters?	NA
6.	Sampling Design:	
6.1.	Does the PoA-DD/PDD clearly define the objective of the proposed sampling	Not applicable as the CPA-DDs follow the sampling plan of the

	plan? P.S.: Identification of parameter of interest	approved revised PoA-DD
6.2	Does the PoA-DD/PDD clearly define the reliability requirement (confidence and precision levels) to be achieved through the sampling effort and for the type of sampling effort (single CPA or across CPA sampling)? P.S.: reliability requirements shall be in accordance with the requirements of applied methodologies or Guideline: Sampling and surveys for CDM project activities and programmes of activities (Version 04.0) or Sampling and surveys for CDM project activities and programmes of activities (Version 07.0).	NA
6.3	Does the sampling plan clearly define the target population and describes any particular features associated with it?	NA
6.4	Does the sampling plan clearly select and describe sampling method to be applied? a) Simple Random Sampling b) Stratified random Sampling c) Cluster Sampling d) Systematic Sampling e) Multi-stage Sampling	NA
6.4.1.	Does the method agree with the description of the population? Are there clusters or strata, and if so, does it state what they are?	NA
6.5	Is the selected sampling method appropriate for the project type, sampling objective and target population?	NA
6.6	Has correct formula been applied for calculation of sample size? P.S.: Sample size calculation shall be in accordance with the type of sampling method and Guideline: Sampling and surveys for CDM project activities and programmes of activities (Version 04.0)	NA
6.6.1	Is the proposed sample size adequate to achieve the minimum confidence/precision requirements?	NA
6.6.2	Is the ex-ante estimate of the population variance needed for the calculation of the sample size adequately justified?	NA
6.6.3	Is the target value for the population parameter reasonably anticipated?	NA
6.6.4	Does the estimate of variability seem reasonable?	NA
6.7	Does the sampling plan provide clear description of the sampling frame to be used? P.S.: This shall agree with the information about the target population and sampling design.	NA
6.7.1	Does the Plan indicate that the sampling frame will be kept (e.g. in hard copy	NA

	or a computer file of screen shot copy), and that random numbers will be generated, and these random numbers will then be used to select the sample?	
6.7.2	Does the sampling frame contain the information necessary to implement the sampling approach?	NA
7	Data Collection	
7.1	Is the data collection/measurement method likely to provide reliable data given the nature of the parameters of interest and project, or is it subject to measurement errors?	Not applicable as the CPA-DDs follow the sampling plan of the approved revised PoA-DD
7.1.1	Are the methods of data collection clear and unambiguous? P.S.: Some questions like “How much money do you spend on heating?” can be subject to respondent error due to sensitivity or lack of recall viz., “How many times did you buy fuel last year?”, etc.,	NA
7.1.2	Are there questions that could be subject to measurement error? P.S.: For example, is a particular measurement method known to under-record key data, such as the weight of bricks?	NA
8	QA/QC Procedure:	
8.1	Are the procedures for the data measurements well defined and do they adequately provide for minimizing non-sampling errors?	Not applicable as the CPA-DDs follow the sampling plan of the approved revised PoA-DD
8.1.1	Is the quality control and assurance strategy adequate?	NA
8.1.2	Are there mechanisms for avoiding bias in the answer? P.S.:Mechanisms for avoiding non-sampling errors (bias) include good questionnaire design, well-tested questionnaires, possibly pilot testing the data collection.	NA
8.2	Are the proposed skill sets, qualifications and experience of the personnel to be engaged to conduct sampling adequate?	NA
9.	Assessment of survey and data collection methods proposed for the PoA/PA	
9.1	Please specify which survey method has been used by PP? a) Hard-copy questionnaires b) smartphone or tablet app modules c) Data Sensor d) Telephone Interview e) E-mail or web-based platform or SMS f) Mailing (post) (questionnaires sent by regular mail)	Not applicable as the CPA-DDs follow the sampling plan of the approved revised PoA-DD
9.1.1	Is the selected method compliant with the requirements of the CDM methodology?	NA
9.2	Does the proposed data collection method match the available sampling frame?	NA

	P.S.:A sampling frame is a complete listing of all individual units (elements, members) that can be considered as a representation of the whole population, and which can be used as a basis for selecting a sample.	
9.2.1	What measures are in place to ensure that non-participating households are excluded from survey and data collection methods that do not rely on physical on-site visits?	NA
9.2.2	What mechanisms are in place to ensure that the intended recipient of the survey is the same person who completes the questionnaire? P.S.: This is relevant to all survey and data collection methods;	NA
9.3	Is the proposed survey and data collection method approach clear and suitable?	NA
9.3.1	Is there a mechanism for ensuring that the data collected are of high quality? Have these mechanisms been tested in pilot telephone interviews? P.S.: For example, during a telephone interview, the interviewer relies on the respondent giving an accurate answer to the question that is being asked.	NA
9.3.2	Does the chosen data collection method suit the capability of the intended recipients? P.S.: For example, a mail-based questionnaire method would be unsuitable for a target population with a low literacy rate;	NA
9.4	Is the stated anticipated response rate reasonable for the selected survey and data collection method?	NA
9.4.1	Is the planning information described above contained in the data collection plan? P.S.: This is essential, as some methods afford weak control over the achievable response rate	NA
9.4.2	Is the anticipated response rate too low to match the number of required valid returns?	NA
9.5	Is the selected survey and data collection method likely to yield results that are representative of the entire target population? P.S.: Some survey and data collection methods (e.g. web-based surveys) are known to suffer from respondent self-selection, so yielding results that are not representative of the entire population.	NA
9.5.1	Is a mechanism for redressing the bias proposed? If so, is it clearly explained and supported by existing endorsed methods?	NA
9.5.2	Does the data collection plan indicate that the existing sampling frame is fit for the intended purpose?	NA

9.5.3	What mechanisms are in place to maximize the accuracy of the sampling frame? P.S.:For example, a sampling frame with telephone numbers of many digits is prone to recording errors, thus excluding eligible households whose telephone number is incorrect.	NA
9.6	Is the survey and data collection method likely to provide reliable data given the nature of the parameters of interest or is it subject to measurement errors by its very nature?	NA
9.6.1	Are there questions whose answer could be subject to respondent error due to the delivery mechanism of the data collection method itself? P.S. For example, the answer “forty” units as opposed to “fourteen” units, in a telephone interview when the respondent is asked to read a meter.	NA
9.6.2	Is a mechanism for mitigating the effect of under-coverage proposed? If so, is it clearly explained and supported by existing endorsed methods? P.S.: Some data collection methods are known to suffer from under-coverage, which occurs when sections of the target population do not appear in the sampling frame. For example, do all eligible households have reliable access to the Internet?	NA
9.7	Are the procedures for the selected survey and data collection method unambiguously defined and do they adequately provide for minimizing non-sampling errors?	NA
9.7.1	Is the quality control and assurance strategy adequate?	NA
9.7.2	Have potential sources of bias inherent in the selected data collection method, such as self-selection and under-coverage, been anticipated? Have mechanisms for mitigating these been considered?	NA
9.8	Does the proposed data collection plan contain the information necessary to implement the selected survey and data collection method?	NA
9.8.1	Are the proposed skill sets, qualifications and experience of the personnel/institutions engaged to conduct the standardized tests/data collection exercise adequate?	NA
9.9	Does the PP have a process in place to ensure data quality is maintained to a high standard? This should include: a) Are the personnel trained and experienced? b) What is the level of supervision and guidance provided to staff? c) Is there a standardized system for data entry and analysis to produce final result? d) Is there a system or process in place to minimize the introduction of errors?	NA

	<ul style="list-style-type: none">e) Is there a system in place to ensure all collected data is processed;f) Are quality checks performed on data entered, for example range checks,g) inconsistency checks, checking of subsamples of data by supervisors;h) is there a system to check for errors, record and report errors reported and document the remedial action taken;i) What is the level of security and type of backup processes to guarantee data integrity, for example methods to prevent fraud and accidental deletion?	
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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31May 2019	Revision to: <ul style="list-style-type: none">• Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN);• Make editorial improvements.
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