Validation report form for CDM component project activities

(version 01.0)

Complete this form in accordance with the attachment: "Instructions for filling out the validation report form for CDM component project activities" at the end of this form.

VALIDATION REPORT		
Reference number and title(s) of the specific-case CPA(s)	**Ref. no.**	**Title**
	CPA 004	Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA 004
Version number of the validation report	Version 01	
Completion date of the validation report	05/10/2016	
Title and UNFCCC ref. no. of the PoA (where applicable) into which the specific-case CPA(s) is/are included	Distribution of fuel-efficient improved cooking stoves in Nigeria UNFCCC reference Number: 6283	
Version number of the PoA-DD into which the specific-case CPA(s) is/are included	Version 09 dated 02/07/2014	
Coordinating/managing entity (CME)	C-Quest Capital LLC (CQC)	
Host Party(ies)	Nigeria	
Estimated annual average emission reductions or net GHG removals in the crediting period (tCO2e) for each specific-case CPA	**CPA Ref. no.**	**Estimated annual average emission reductions or net GHG removals in the crediting period (tCO2e)**
	CPA 004	42,044
Sectoral scope(s) for each specific-case CPA	**CPA Ref. no.**	**Sectoral scope(s)**
	CPA 004	Sectoral scope 3: Energy demand
Selected methodology(ies) for each specific-case CPA	**CPA Ref. no.**	**Selected methodology(ies)**
	CPA 004	AMS-II.G: "Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass" (Version 03)
Selected standardized baseline(s) for each specific-case CPA	**CPA Ref. no.**	**Selected standardized baseline(s)**
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Name of DOE	Carbon Check (India) Private Ltd.	
Name, position and signature of the		

approver of the validation report	

SECTION I. Executive summary

C-Quest Capital LLC (CQC) has commissioned Carbon Check (India) Private Ltd. (CCIPL) to perform the validation of the proposed small scale CPA "Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA 004" requesting to be included in the PoA. CCIPL was commissioned to assess the information in the CDM-SSC-CPA-DD for the CPA titled "Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA 004" (hereafter called "the CPA") against the requirements for including CPAs to the registered PoA "Distribution of fuel-efficient improved cooking stoves in Nigeria" and further documentation requirements for including CPAs to a PoA.

This report summarizes the findings of the validation of the small-scale component Project Activity Design Document (CDM-SSC-CPA-DD), 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 CPA as established in the PoA-DD /B02/. 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 CPA 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 CPAs 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 /B03/.

The main objective of the PoA and the CPA(s) is promotion, distribution / installation of fuel-efficient improved cook stoves (ICS) in Malawi. The ICS disseminated through this programme will replace the prevailing inefficient three-stone fires or traditional pot support with stoves that combust firewood more efficiently and improve thermal transfer to pots, 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 document (CPA-DD /01/). The CPA-DD /01/ is 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, 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, CCIPL determines if the CPA complies with the requirements of UNFCCC, specifically the applicability conditions of the selected methodology and also assesses the claims and assumptions made in the CPA-DD /01/ without limitation on the information provided by the project participants.

The report is based on the assessment of the CPA-DD /01/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, site visit, and stakeholder 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 CPA thus confirming the project design as document is sound and reasonable and meets (subject to closure of all findings) the stated requirements and identified criteria.

SECTION II. Validation team, technical reviewer and approver

II.1. Validation team member

No.	Role	Type	Last name	First name	Affiliation	Involvement in

					(e.g. name of central or other office of DOE or outsourced entity)	Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader / Validator / Technical Expert	IR	Singh	Vikash Kumar	CCIPL	X	NA	X	X

II.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	Agarwalla	Sanjay Kumar	CCIPL
2.	Approver	IR			CCIPL

SECTION III. Means of validation

III.1. Desk review

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

III.2. On-site inspection

Since the CPA is not yet implemented, no on-site visit was conducted.

III.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Goswami	Tridip	C-Quest Capital LLC (CQC)	27/09/2016	Baseline scenario; Technology to be used in the CPA; CPA implementation; ICS distribution procedure; Record keeping and monitoring plan;	Vikash Kumar Singh
2.	Garg	Vineet	C-Quest Capital LLC (CQC)	27/09/2016 04/10/2016	Baseline scenario and additionality; Methodology applicability; Eligibility criteria for inclusion of CPA in the PoA; Record keeping and monitoring plan;	Vikash Kumar Singh

III.4. Sampling approach

Not applicable

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

Areas of validation of compliance	No. of CL	No. of CAR	No. of FAR
General description of the CPA(s)			
• Title of the proposed or registered PoA	--	--	--
• Title(s) of the proposed specific-case CPA(s) and the corresponding generic CPA(s)	--	--	--
• Specific-case CPA design document	--	02	--
• Purpose and general description of the specific-case CPA(s)	--	--	--
Environmental analysis	--	--	--
Local stakeholder consultation	--	--	--
Eligibility of CPA(s) and estimation of emissions reductions	--	--	--
• Applicability of selected methodology(ies) and/or standardized baseline	--	--	--
○ Deviation from methodology	--	--	--
○ Clarification on applicability of methodology, tool and/or standardized baseline	--	--	--
• Sources and GHGs	--	--	--
• Description of baseline scenario	--	--	--
• Demonstration of eligibility for the CPA(s)	--	--	--
• Estimation of emission reductions or net GHG removals by sinks	--	--	--
○ Explanation of methodological choices	--	--	--
○ Data and parameters fixed ex ante	--	--	--

○ Ex ante calculation of emission reductions or net GHG removals by sinks	--	--	--
○ Summary of ex ante estimates of emission reductions or net GHG removals by sinks	--	--	--
• Application of the monitoring methodology and description of the monitoring plan	--	--	--
○ Data and parameters to be monitored	--	--	--
○ Description of the monitoring plan	--	--	--
Total	00	02	00

SECTION IV. Internal quality control

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 V. Validation opinion

Under the validation (by means of document review and interviews with stakeholders), the validation team considers that the description of CPA titled "Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA 004" as described in the CPA-DD /02/ is accurate and complete; meets the requirements to be included in the PoA titled "Distribution of fuel-efficient improved cooking stoves in Nigeria" /B02/ and correctly applies the baseline and monitoring methodology AMS-II.G, Version 03.0 /B03/.

Standard auditing techniques have been used for the validation of the project. An analysis, as provided by the applied methodology, demonstrates that the proposed CPA is not a likely baseline scenario. Emission reductions attributable to the CPA are additional to any that would occur in the absence of the project activity. Given that the CPA is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the CPA-DD /02/.

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 VVS requirements /B01-1/.

The validation was executed in the following steps so far:

- Receipt of CPA-DD /01/
- Desk review of revised CPA-DD applying AMS-II.G "Energy efficiency measures in thermal applications of non-renewable biomass" Version 03.0
- 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
- Issue of the final validation report

The CPA correctly applies the baseline and monitoring methodology of the PoA namely AMS-II.G, Version 03, "Energy efficiency measures in thermal applications of non-renewable biomass" /B03/.

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

The CPA-DD contains 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 no Clarification Requests (CLs) were identified on the initially submitted CPA-DD /01/. Upon evaluation of responses provided by the CME, all the identified issues were closed successfully.

The single purpose of this report is its use during the inclusion process (of the specific CPA). The review of the CPA-DD /02/, 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 /B02/ and the CPA-DD /02/. In the opinion of CCIPL, the CPA meets (subject to closure of all findings) all relevant UNFCCC requirements for the CDM if the underlying assumptions do not change. CCIPL recommends the CPA for inclusion in the registered PoA.

SECTION VI. Validation findings

SECTION A. General description of the CPA(s)

A.1. Title of the proposed or registered PoA

Distribution of fuel-efficient improved cooking stoves in Nigeria

A.2. Title(s) of the proposed specific-case CPA(s) and the corresponding generic CPA(s)

Specific-case CPA title and reference number	Version number of the specific-case CPA-DD	Host Party	Generic CPA title, identification/reference number	Version number of the PoA-DD into which the CPA is included
"Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA 004"	Version 01, dated 08/08/2016	Nigeria	"Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA XXX"	Version 09 dated 02/07/2014

A.3. Specific-case CPA design document

Means of validation	DR, I
Findings	--
Conclusion	Through means of document review and interviews with stakeholders, the validation team considers that the CPA description in the CPA titled "Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA 004", as described in the CPA-DD /01/ is accurate and complete; meets the requirements to be included in the PoA titled "Distribution of fuel-efficient improved cooking stoves in Nigeria" /B02/ and correctly applies the baseline and monitoring methodology AMS-II.G, Version 03.0 /B03/ and requirements of VVS version 09 /B01-1/. The validation team confirms that the requirements of the CDM-SSC-CPA-DD-FORM form filling guidelines /B05-4/ and VVS version 09 /B01-1/ have been appropriately met.

A.4. Purpose and general description of the specific-case CPA(s)

Means of validation	DR, I
Findings	--
Conclusion	The following description of the proposed component project activity as per CPA-DD /01/ is verified: The CPA titled "Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA 004" is developed under the Small-Scale Programme of Activities (PoA) titled "Distribution of fuel-efficient improved cooking stoves in Nigeria" /B02/, which is coordinated and managed by C-Quest Capital LLC (CQC). The CPA of the PoA /B02/ involves the promotion and installation of ICS in Nigeria, as per the CPA DD /01/, the CPA involves approximately 15,185 domestic fuel-efficient improved cook stoves (ICS) in Nigeria. The main objective of this CPA is ICS dissemination and will replace the prevailing inefficient three-stone fires or traditional stoves, which (ICS) combust wood more

	efficiently and improve thermal transfer to pots, 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 CPA implementer is C-Quest Capital LLC as confirmed by reviewing the CPA-DD /01/ and interviews with the representative of the CME. The CME shall be responsible to perform quality control activities for the proposed CPA and the same has been checked and confirmed by reviewing the CPA-DD /01/ and interviews with the representative of the CME. The CPA will involve dissemination and implementation of TLC Rocket Stove proposed under this CPA. It is a type of single pot fixed cook stoves with an average thermal efficiency of 25.66 % /03/. The thermal efficiency of the stove was verified through review of Water Boiling Test (WBT) results of Cook Stoves as performed by a third party /03/. This CPA is only replacing wood-fuel stoves. As per the CPA DD /01/, the TLC Rocket Stove is a simple design with basic features. As verified /16/, the design uses a total of 16 readily available building bricks that are made by the household using locally available clay. The average size of the brick used on the TLC Rocket Stove /17/ which is produced using a standard mold is 22.5cm x 11cm x 6.5cm. The bricks are mortared together using locally available material (clay soil, cow dung, and sand) for better insulation and heat loss reduction. The mud mortar is a mix of 5 liters clay, 5 liters sand, 5 liters manure with 5 liters of water. Start date of CPA is expected as 01/10/2016 /01/ which is after the start date of PoA and found to be satisfactory. The validation team based on the review of the declaration from the CME /07/ confirms that there is no double counting of emission reductions due to the implementation/inclusion of the CPA, as this CPA does not belong to or is included in any other PoA or stand-alone CDM project. The validation team has cross-checked this from the UNFCCC website /B05-1/ and interviews with representatives of CME and confirms that there is no double counting, the double-counting risk is prevented by the unique serial number /06/ borne by each of the distributed cookstoves. Furthermore the validation team based on the review of CPA-DD /01/ and CME manual /15/ 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 CPA under the PoA includes detailed sales information collected from end-user through registration process /06/. Furthermore, the registration process /06/ contains a provision that the carbon credits generated from the use of ICS are transferred to the CME of the PoA. The information from the registration process /06/ will be entered into the CPA database /05/. Double counting of emissions reductions will be avoided because each CPA and each ICS distributed will have a unique identification number. The CPA implementer intends to disseminate about 15,185 stoves and given that the CPA would be implemented as described in the CPA-DD /01/, it is likely to achieve the estimated amount of emission reductions of 420,440 /02/ tCO_2e over the during the 10 years fixed crediting period; leading to an annual average of 42,044 /02/ tCO_2e as indicated in the final CPA-PDD /01/ and also in the ER calculation sheet /02/. Based on the information furnished by the CME /10/, no ODA contributes to the financing of the CPA. The validation team has checked that the CPA is not a de-bundled component of large scale project or PoA in line with General Principles for Bundling (Version 02.0); Annex 21, EB 66 /B05-6/ and the same has been described/demonstrated in the CPA-DD /01/, checked and confirmed by the validation team.

SECTION B. Environmental analysis

Means of validation	DR, I
Findings	-

Conclusion	It has been indicated in the PoA-DD /B02/ that environmental analysis is carried out at PoA level. Hence further validation is not required.

SECTION C. Local stakeholder consultation

Means of validation	DR, I
Findings	--
Conclusion	It has been indicated in the PoA-DD /B02/ that LSC is carried out at PoA level. Hence further validation is not required.

SECTION D. Eligibility of CPA(s) and estimation of emissions reductions

D.1. Applicability of selected methodology and/or standardized baseline

Means of validation	DR, I
Findings	--
Conclusion	As per the registered PoA-DD /B02/, the selected methodology applied for the CPA is AMS II.G, Version 05 /B03/. Applicability of the methodology is discussed below: 1. **Small Scale Aggregate:** This CPA aims to achieve energy savings of not more than 180 GWh_{th} per year. Based on the energy saving calculations included in the ER calculation sheet /02/, energy savings per ICS unit is confirmed as 0.0107 to 0.0130 GWhth/year. Considering that 15,185 ICS would be operational per year in the small-scale CPA, this corresponds to 180 GWh_{th}/year of energy savings per CPA, which is the small-scale threshold. 2. **Technology:** The CPA will involve dissemination and implementation of only TLC Rocket Stove (proposed under this CPA is a type of single pot fixed cook stoves) cook stoves with an average thermal efficiency of 25.66%. The thermal efficiency of the stove was verified through review of Water Boiling Test (WBT) of Cook Stoves performed by Aprovecho Research Center /03/. 3. **Non-renewable Biomass:** Justified at PoA level /B02/ 4. **Leakage:** Leakage has been accounted by multiplying B_{old} by a net to gross adjustment factor of 0.95. The same is in line with applied methodology /B03/. Based on the above assessment, validation team concludes that the subject CPA complies with this eligibility criterion of the PoA.

D.1.1. Deviation from methodology

Means of validation	DR, I
Findings	-
Conclusion	No methodology deviation is being applied for the CPA.

D.1.2. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	DR, I
Findings	-
Conclusion	No clarification is required on applicability of the applied methodology.

D.2. Sources and GHGs

Means of validation	DR, I
Findings	-

Conclusion	As per the applied baseline methodology AMS-II.G, Version 03, the boundary of a typical CPA confines to the physical, geographical site of the devices that burn biomass. The project boundary information has been correctly given in section D.3 of the CPA-DD /01/ and is consistent with the description of project boundary provided in the PoA-DD /B02/. The physical delineation of the CPA under the PoA and the description of the emission sources and GHGs that are included in the CPA boundary are appropriate for the purpose of calculating emission reductions for the CPA. Validation team also confirms that the project boundary for the CPA is based on the applied methodology /B03/ and the sources and gases within the boundary have been considered in a clear manner.

D.3. Description of baseline scenario

Means of validation	DR, I
Findings	--
Conclusion	As stated in the applied methodology AMS II.G, Version 03 and the CPA-DD /2/, the baseline scenario is the use of fossil fuels for meeting similar thermal energy needs as in the project activity.

D.4. Demonstration of eligibility for the CPA(s)

All the eligibility criteria required for the inclusion of the CPA under the PoA have been addressed in the CPA-DD /01/. The stated confirmation against each eligibility criteria has been checked/ assessed and found acceptable by the validation team.

Sl. No.	Eligibility criteria Description	Eligibility check outcome	Assessment by the Validation team
(01)	Involves the promotion and distribution of ICS by CQC or entities approved and authorised by CQC.	☒ Yes ☐ No	Based on review of CPA-DD /01/, it is confirmed that the CPA involves promotion and installation of ICS by CQC in residential households of geographical territory of Kano and Kaduna state of Nigeria. The TLC Rocket Stove is a fixed single pot ICS that has a thermal efficiency of 25.66% in accordance with manufacturer's specifications and evidenced by a WBT conducted by an independent third party /03/. **Conclusion:** Based on the above assessment, the validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(02)	Be implemented within the geographical boundary of Kaduna and/or Kano State, Nigeria;	☒ Yes ☐ No	Validated against a self-declaration letter /04/ issued by the CPA implementer (CQC) regarding this CPA which mentions the geographical boundary (Kano and Kaduna state of Nigeria). **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(03)	Have a maximum energy saving of 180 GWHth/ year throughout the CPA's crediting period, and the energy savings of each ICS unit in a CPA is no larger than 5% [or 9000 MWHth/yr] of the small-scale CDM threshold of 180 GWHth/yr in	☒ Yes ☐ No	Validated against ER calculation excel spread-sheet /02/. The calculations for the maximum energy savings per stove and the maximum number of stoves which can be included in a CPA without exceeding the threshold of 180 GWhth/year has been verified by reviewing the CPA ER calculation excel sheet /02/. Validation team based on assessment of the formulae and calculations confirms that this CPA will not pass

Sl. No.	Eligibility criteria Description	Eligibility check outcome	Assessment by the Validation team
	order to demonstrate additionality of each CPA;		the threshold of 180 GWhth/year. Each stove is estimated to save approximately between 0.0107 (for Kaduna State) and 0.0130 (for Kano State) GWHth/yr, far below the 9000 MWhth/yr threshold. **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(04)	Has a database describing uniquely identified and defined households in which ICS have been distributed;	☒ Yes ☐ No	This CPA will have a database that includes the following for each ICS unit: name of the customer, address/ description of location, contact telephone number(s), unique serial number of the stove (including prefacing the serial number with the letters "CQC"), retailer ID, and date of installation. The above assessment is based on review of CME manual /15/ (which describes the process of registration) and sample ICT (of other implemented CPA) /06/ and sample database (of other implemented CPA) /05/ with serial number of ICS. **Conclusion:** Based on the above assessment, validation team concludes that the subject CPA complies with this eligibility criterion of the PoA.
(05)	Comply with the PoA standard Para 14 (e) the eligibility criteria should be the criteria with regard to the conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPA. The CPA should comply with all criteria. These applicability criteria include: (1) the project involves the distribution of energy efficient cooking stoves; (2) these new stoves have an efficiency of no less than 20%; (3) non- renewable biomass has been used as a fuel since 1989.	☒ Yes ☐ No	The CPA complies with applicability and other requirements of applied methodology i.e. AMS. II.G version 03.0. 1. **Small Scale Aggregate:** The project involves the distribution of energy efficient cooking stoves.This CPA aims to achieve energy savings of not more than 180 GWh_{th} per year. Each stove is estimated to save approximately between 0.0107 (for Kaduna State) and 0.0130 (for Kano State). Considering that 15,185 ICS would be operational per year in the small-scale CPA, this corresponds to 180 GWh_{th}/year of energy savings per CPA, which is the small-scale threshold. 2. **Technology:** The CPA will involve dissemination and implementation of only TLC Rocket Stove (proposed under this CPA is a type of single pot fixed cook stoves) cook stoves with an average thermal efficiency of 25.66%. The thermal efficiency of the stove was verified through review of Water Boiling Test (WBT) of Cook Stoves performed by Aprovecho Research Center /03/. 3. **Non-renewable Biomass has been used as a fuel since 1989:** Justified at PoA level /B02/ and in CPA DD /01/ **Conclusion:** Based on the above assessment, validation team concludes that the subject CPA complies with this eligibility criterion of the PoA.
(06)	Not involve households already involved or covered by any other CPA or CDM project involving the	☒ Yes ☐ No	Based on review of analysis provided in the CPA DD /01/, validation team confirms that CPA does not involve households already involved or covered by any other CPA or CDM project involving the distribution of

Sl. No.	Eligibility criteria Description	Eligibility check outcome	Assessment by the Validation team
	distribution of ICS		ICS. The CPA has been cross- checked with other CPAs in this PoA and with CPAs in any other PoA or in a CDM project activity operating in the country using the UNFCCC, the Gold Standard /B06-5/ or any other relevant voluntary carbon schemes /B06-6/ to ensure that the CPA is not included in any other PoA, CDM project activity or voluntary project activity. **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(07)	Be able to provide documentary evidence of the start date.	☒ Yes ☐ No	A self-declaration from CPA Implementer / CME /09/ was provided to the validation team stating that the start date of the CPA is indicated as the date of inclusion or 01 October 2016, whichever comes later. As per the declaration /07/ provided by the CME, the CME confirms that they plan to start the installation of ICSs, as part of this SSC-CPA, on or about 01/10/2016. Hence the expected start date of the CPA is in compliance with the eligibility criterion requirement of the PoA-DD /B02/ and CPA-DDs /01/[1]. **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(08)	Be able to affirm that no funding is coming from Annex I parties. If any public funding is made available from Annex I parties, affirm there is no diversion of Official Development Assistance (ODA);	☒ Yes ☐ No	Validated against self-declaration letter /10/ from the CME confirming that no ODA funding involved in the CPA. **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(09)	Not registered as an individual CDM project activity nor included in another registered SSC-PoA.	☒ Yes ☐ No	Validation team has reviewed CME manual /16/ which mentions the information to be collected when an ICS is installed, including stove serial number. Each ICS will be identified by a unique identification serial number, which make the CPA unique from other CPAs. Validation Team has searched the UNFCCC website /B06-1/ and cross checked that this particular CPA is not the part of any other registered project. In addition, each CPA will be cross- checked with other CPAs in this PoA and with CPAs in any other PoA or in a CDM project activity operating in the country using the UNFCCC, the Gold Standard /B06-5/ or any other relevant voluntary carbon schemes /B06-6/ to ensure that the CPA is not included in any other PoA, CDM project activity or voluntary project activity.

[1] The start date of the CPA will be when the first stove is sold and registered in the database.

Sl. No.	Eligibility criteria Description	Eligibility check outcome	Assessment by the Validation team
			The CME has provided a self-certification /07/ attesting that this CPA is not a part of any other registered PoA or CDM project. **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(10)	Be approved by coordinating entity prior to its incorporation into the SSC-PoA;	☒ Yes ☐ No	CQC has self-declared that this CPA is approved by the CME. A self-declaration /08/ by the CME was provided to the validation team. **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(11)	ICS introduced must have a thermal efficiency of no less than 20%, (using the WBT outlined in AMS IIG. Version 3 approved by the CDM Executive). Efficiency of the ICS shall be established by a national standards body or an appropriate certifying agent recognized by it, or alternatively manufacturers' specification shall be used;	☒ Yes ☐ No	Validated against water boiling test report /03/ which mention a thermal efficiency of 25.66%. **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(12)	Ensure that the CPA meets the criteria for not being a de-bundled component of a larger project activity (eg: the debundling rule does not apply if the stove, the independent subsystem, does not exceed 1% of the 180 GWh)	☒ Yes ☐ No	Validated against ER calculation excel spreadsheet /02/. The calculation for the maximum energy savings per stove has been verified by the validation team based on review of CPA ER calculation spreadsheet /02/. Validation Team by assessing the formulae and calculation confirms that none of the independent subsystems (ICS) will exceed 1% of 180 GW_{th}. Each stove is estimated to save approximately between 0.0107 (for Kaduna State) and 0.0130 (for Kano State) GWHth/yr, far below the 1800 MWhth/yr threshold **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.
(13)	CPAs must include a mechanism that transfers the ownership rights of CERs from the ICS user to the project participants.	☒ Yes ☐ No	Based on review of CME manual /15/ (which describes the process of transfers the ownership rights of CERs from the ICS user to the CME) and sample ICT, which is signed /received by the end-user upon distribution/installation /06/, validation team confirms that mechanism is in place for transfers the ownership rights of CERs as required by this eligibility criteria. **Conclusion:** Based on the above assessment, validation team concludes that this eligibility criterion of the PoA is complied with the subject CPA.

D.5. Estimation of emission reductions or net GHG removals by sinks

D.5.1. Explanation of methodological choices

Means of validation	DR, I
Findings	--
Conclusion	The equations and choices provided in the applied methodology /B03/ are correctly quoted in the CPA-DD /01/. The emission reductions of the CPA of the PoA would be calculated using the formulae mentioned in the applied methodology AMS-II.G (Version 03.0) /B03/. The parameters and equations presented in the PoA-DD /B02/, CPA-DD /01/ and ER spread-sheet /02/ have been compared with the information and requirements presented in the methodology /B03/. Validation team based on the review of CPA-DD /01/ and the ER spread sheet /02/, confirms that the formula are correctly presented for the determination of emission reductions at CPA level.

D.5.2. Data and parameters fixed ex ante

Means of validation	DR, I
Findings	--
Conclusion	Ex-ante parameters provided under section D.6.2 of the CPA-DD /01/ are found to be appropriate and in line with the applied methodology AMS-II.G (version 03.0) /B03/. Ex-ante parameters of this proposed CPA are as follows:

Parameter	Description	Verified Value	Verified Source
$f_{NRB,y}$	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass	0.93	Detailed calculation provided in appendix-3 of the CPA DD /01/. The value of this parameter is fixed ex-ante in the PoA DD /B02/.
B_{old}	Quantity of woody biomass used in absence of the project activity in three-stone fires or traditional pot supports per household	4.21 (Kaduna), 5.1129 (Kano) Tonnes / stove / year	The values were sourced from baseline survey /03/. The value of this parameter is fixed ex-ante in the PoA DD /B02/.
η_{old}	Efficiency of 3-stone fire or traditional pot support cooking	0.1	Default value as per AMS-II.G. Version 03 0) /B03/.

	method (system being replaced)			
$EF_{projected\_fossilfuel}$	Emission factor for he substitu ion of non-renewable woody biomas by sim ar consumers	81.6 tCO_2/TJ	2006 IPCC Guidelines for National Greenhouse Gas Inventories	
LE_y	Net to gross adjustment factor to account for leakages	0.95	Default value as per AMS-II.G. (Version 05.0) /B03/.	
$NCV_{biomass}$	Net calorific value of the non-renewable woody biomass that is substituted	0.015	Default value as per AMS-II.G. (Version 05.0) /B03/.	

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

Means of validation	DR, I
Findings	--
Conclusion	The equations and choices provided in the applied methodology /B03/ are correctly quoted in the CPA-DD /01/. The emission reductions due to the CPA have been calculated using the formulae mentioned in the applied methodology AMS-II.G (Version 03.0) /B03/ and the registered PoA-DD /B02/. The total ex ante emission reductions resulting from the CPA for the entire fixed crediting period of ten years is estimated to be 420,440 tCO_2e and the average annual emission reductions are 42,044 tCO_2e. The validation team reviewed the ER spread-sheet calculations /02/ and confirms the same to be correct. The validation team conducted assessment of emission reductions calculation. The parameters and equations presented in the CPA-DD /01/, as well as other applicable documents, have been compared with the information stipulated in the methodology /B03/. The assumptions and data (both ex-ante and ex-post) used to determine the emission reductions are described in the CPA-DD /01/ 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-DD /01/. The values in the CPA-DD /01/ 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. The validation team further confirms that all assumptions and data used by the CME are listed in the CPA-DD /01/ (including their references and sources). All documentation used as a basis for assumptions and sources of data are confirmed as correctly quoted and interpreted in the CPA-DD /01/. The values stated in the CPA-DD /01/ are considered reasonable and the baseline methodology and applicable tools have been correctly applied to calculate the emission reductions.

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

Means of validation	DR, I

Findings	-
Conclusion	The total ex ante emission reductions resulting from the CPA for the entire first renewable crediting period of seven years is estimated to be 420,440 tCO_2e and the average annual emission reductions are 42,044 tCO_2e. The validation team reviewed the ER spread-sheet calculations /02/ and confirms the same to be correct.

D.6. Application of the monitoring methodology and description of the monitoring plan

D.6.1. Data and parameters to be monitored

Means of validation	DR, I
Findings	--
Conclusion	The monitoring plan presented in the CPA-DD /01/ complies with the requirements of the PoA-DD /B02/ and the applied monitoring methodology /B03/. The validation team has verified all parameters in the monitoring plan against the requirements of the methodology and no deviations have been found. 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. The parameters /01/, /B02/ that are to be monitored ex-post are reported in CPA DD /01/. In summary, the parameters determined ex-post have been presented correctly according to requirements and are considered in accordance with the applied methodology /B03/ and the registered PoA-DD /B02/. This is in conformance with the requirements of §142(b) of CDM VVS, version 09/B01-1/.

D.6.2. Description of the monitoring plan

Means of validation	DR, I
Findings	--
Conclusion	The monitoring plan presented in the CPA-DD /01/ complies with the requirements of the PoA-DD /B02/, the applied monitoring methodology /B03/. 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. 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. The responsibilities and institutional arrangements for data collection and archiving have been clearly provided. The information provided in the CPA-DD /01/ could be confirmed based on the interviews and also through the submitted documentary evidence namely CME management manual /16/ covering all requirements as stated in section D.7.1 of CPA-DD /01/. 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.

Appendix 1. Abbreviations

Abbreviations	Full Texts
BE	Baseline Emission
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd.
CQC	C-Quest Capital LLC
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_2e	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
FAR	Forward Action Request
GHG	Greenhouse Gas
GWh	Giga Watt Hours
I	Interview
IPCC	Intergovernmental Panel on Climate Change
kW	Kilo Watt
kWh	Kilo Watt Hours
Ly	Leakage
LSC	Local Stakeholder Consultation
MoV	Means of Verification
MoC	Modalities of Communications
MW	Mega Watt
MWh	Mega Watt Hours
NCV	Net Calorific Value
NGO	Non-Government Organisation
NOx	Nitrogen Oxides
NRB	Non-renewable Biomass
ODA	Official Development Assistance
OSV	On Site Visit
PE	Project Emission
PoA	Programme of Activities
PoA-DD	Programme of Activities design document
PP	Project Participant
SD	Sustainable Development
t	Tonne
TLC	Total Land Care
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team member and technical reviewer

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 06.0):

For following functions:

Validator	☒	Team Leader	☒	Technical reviewer	☒
Verifier	☒	Technical Expert	☒	Local Expert[1]	☒

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

Carbon Check (India) Private Limited New Delhi

Date of Approval
24/12/2015

Valid Till
23/12/2016

Revision History of the Document

26/12/2014	Initial Adoption
20/01/2016	Revision to reflect updated office address

[1] India, South Africa

CARBON CHECK (INDIA) PRIVATE LIMITED
Registered in India: U74930DL2012PTC232495
Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
Corporate off: G 49 & 50, 3rd Floor, Sector – 3, NOIDA (Uttar Pradesh) – 201301
Tel: +91 120 4373114 / +91 120 2520027 | URL: www.carboncheck.co.in
e-mail: info@carboncheck.co.in

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	☒	**Team Leader**	☒	**Technical reviewer**	☒
Verifier	☒	**Technical Expert**	☒	**Local Expert**[1]	☒

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. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Carbon Check (India) Private Limited
New Delhi

Date of Approval
24/12/2015

Valid Till
23/12/2016

Revision History of the Document

26/12/2014	Initial Adoption
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[1] India

CARBON CHECK (INDIA) PRIVATE LIMITED
Registered in India: U74930DL2012PTC232495
Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
Corporate off: G 49 & 50, 3rd Floor, Sector – 3, NOIDA (Uttar Pradesh) – 201301
Tel: +91 120 4373114 / +91 120 2520027 | URL: www.carboncheck.co.in
e-mail: info@carboncheck.co.in

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
/01/	CQC	First CPA DD	Version 01, dated 08/08/2016	CQC
/02/	CQC	Emission reduction calculation spread-sheet	--	CQC
/03/	Aprovecho Research Center.	Water Boiling Test conducted as independent stove efficiency tests.	Undated.	CQC
/04/	CQC	CPA implementer self-declaration that all stoves will be installed within geographical boundary of Kaduna State and Kano state, Nigeria.	Dated 09/08/2016	CQC
/05/	CQC	Sample project database	--	CQC
/06/	CQC	Sample ICT with unique alpha-numeric code	--	CQC
/07/	CQC	A self-certification from CME attesting that this CPA is not a part of any other registered PoA or CDM project.	Dated 09/08/2016	CQC
/08/	CQC	Self declaration from CME regarding the approval of this CPA.	Dated 09/08/2016	CQC
/09/	CQC	A self-declaration from CPA Implementer for the start date of the CPA.	Dated 09/08/2016	CQC
/10/	CQC	Evidence of non-involvement of ODA- Letter from the CQC to show that investment finance for this CPA is coming from CQC own funds and not from ODA.	Dated 09/08/2016	CQC
/11-1/	ABHAssociates	Firewood Consumption Study Kaduna and Kano States, Nigeria (an independent third party).	25/11/2012	CQC
/11-2/	HED consultant	Baseline Woodfuel Consumption Survey for Nigeria, Kaduna state (an independent third party).	17/10/2011	CQC
/13/	CQC	Sample ICT for the process of registration as a proof of transfer ownership of the carbon assets to the end-user (purchasing the ICS) transferring the carbon rights to the CME.	--	CQC
/14/	CQC	Cook Stoves Monitoring Training Manual	May 2012	CQC
/15/	CQC	CME manual	Version 02, 07/12/2012	CQC
/16/	TLC	Technical Specifications of Stove (TLC Construction brochure)	--	CQC
/B01/	UNFCCC	1. CDM Validation and Verification Standard (Version 09.0). 2. CDM Project Standard (Version 09.0) 3. CDM Project Cycle Procedure (Version 09.0)	http://cdm.unfccc.int/	Others
/B02/	UNFCCC	PoA-DD, version 09, 02/07/2014 and the corresponding validation report for the registered PoA “Distribution of fuel-efficient improved cooking stoves in Nigeria”, having UNFCCC Ref. No. 6283	http://cdm.unfccc.int/	Others
/B03/	UNFCCC	AMS-II.G. Energy efficiency measures in thermal applications of non-renewable biomass (version 03.0)	http://cdm.unfccc.int/	Others
/B04/	UNFCCC	Guidelines on the demonstration of additionality of small scale project activities (Version 09.0); Annex 27, EB 68	http://cdm.unfccc.int/	Others

/B05/	UNFCCC	PoA Specific guidelines / standards / Forms published by UNFCCC: 1. Guideline: Sampling and surveys for CDM project activities and programmes of activities (Version 05.0) 2. Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 03.0) 3. Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities (Version 04.0) 4. Instructions for filling out the component project design document form for small-scale CDM component project activities (Version 05.0) 5. Component project activity design document form for small-scale CDM component project activities (CDM-SSC-CPA-DD-FORM), (Version 05.0) 6. General Principles for Bundling (Version 02.0); Annex 21, EB 66	http://cdm.unfccc.int/	Others
/B06/	-	Websites: 1. www.unfccc.int 2. http://www.ipcc.ch 3. https://maps.google.co.in/ 4. http://www.pciaonline.org/testing 5. http://www.goldstandard.org 6. http://www.v-c-s.org	-	Others

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

Table 1. CL from this validation

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

Table 2. CAR from this validation

CAR ID	01	**Section No.**	A.9.1	**Date:** 25/09/2016
Description of CAR				
As per the CPA DD /01/, the start date of crediting period is 01/10/2016, which is already passed. CME is requested to forward shift of the crediting period to a realistic date.				
CME response				**Date:** DD/MM/YYYY
Documentation provided by CME				
DOE assessment				**Date:** DD/MM/YYYY

CAR ID	02	**Section No.**	ER sheet	**Date:** 25/09/2016

Description of CAR	
CME has provided a detailed calculation of the parameter FNRB in appendinx-3 of the CPA DD. However as per the ER sheet, source of the fNRB value has been indicated as "default".	
CME response	**Date:** DD/MM/YYYY
Documentation provided by CME	
DOE assessment	**Date:** DD/MM/YYYY

Table 3. FAR from this validation

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

APPENDIX A

Conformity of Component Project Activities

CDM-CPA-DD Requirements Checklist

"Distribution of fuel-efficient improved cooking stoves in Nigeria – CPA 004"
in Nigeria

Table 1: Conformity of Component Project Activities

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.**
Specific requirements of CPA				
SECTION A. General description of CPA				
A.1. Title of the proposed or registered PoA				
A.1.1. Is the reference and title of the PoA to which this CPA is included provided?	Yes, the reference and title of the PoA to which this CPA is included provided.	/1/	OK	OK
A.2. Title of the CPA				
A.2.1. Is the title of the CPA and the unique identification of the CPA Indicated?	Yes, title of the CPA and the unique identification of the CPA Indicated.	/1/	OK	OK
A.2.2. Is the current version number of the CPA-DD Indicated?	Yes the current version of the CPA-DD has been indicated.	/1/	OK	OK
A.2.3.Is the date the CPA-DD was completed (DD/MM/YYYY) Indicated?	Yes, date of CPA-DD was completed in line with SSC-CPA-DD filling guidelines	/1/	OK	OK
A.3. Description of the CPA				
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 project is replacing the traditional stove with the ICS with higher efficiency. And the technology result in a significantly better performance than any commonly used technologies in the host country.	/1/	OK	OK

	The emission reduction would happen by replacing the non-renewable biomass (NRB) which is main source of energy for cooking in the geographical area of the PoA.			
A.4 Entity/individual responsible for CPA				
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, information on the CPA implementer provided is consistent with details provided in Annex 1 of the CPA-DD.	/1/	OK	OK
A.4.1.2 Is the name of CPA implementers included in the CPA is consistent with the proposed/ registered PoA?	Yes, information on the CPA implementer provided is consistent with details provided in Annex 1 of the CPA-DD.	/1/	OK	OK
A.5 Technical description of the CPA				
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, systems and equipment that will be installed and/or modified by the CPA provided?	Yes, the description the technologies and/or measures to be employed and/or implemented by the CPA including a list of the facilities, systems and equipment that will be installed and/or modified by the CPA provided in section A.5 of the CPA-DD.	/1/	~~OK~~	OK
A.5.2 Does the description includes;	Yes, the Descriptions includes about the technologies in section A.5 of the CPA- DD.	/1/	OK	OK
A.5.2.1 A list and the arrangement of the main	Yes, the list has been	/1/	OK	OK

manufacturing/production technologies, systems and equipment involved provided?	provided in the section A.5 of the CPA-DD:			
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, the 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.	/1/	OK	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?	Refer section A.5.2.1	/1/	OK	OK
A.5.2.4 Energy and mass flows and balances of the systems and equipment included in the CPA?	Refer section A.5.2.1	/1/	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?	Refer section A.5.2.1	/1/	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			
A.5.3 Does the description contains a list of:-				
A.5.3.1 Facilities, systems and equipment in	Not Applicable			

operation under the existing scenario prior to the implementation of the CPA?				
A.5.3.2 Facilities, systems and equipment in the baseline scenario?	Not Applicable			
A.5.3.3 In case the baseline scenario is a continuation of current practice. Is it stated that both the scenarios are same?	Not Applicable			
A.5.3.4 Does the information provides the purpose of the CPA and how it reduces GHG emissions?	Yes, the CPA will therefore reduce greenhouse gas emissions by implementing cook-stove thereby reducing use of non-renewable biomass in the host country.			
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 (ies) and CPA implementer(s) involved in the CPA provided in tabular format and in Appendix 1 Consistent and the contact information complete.	/1/	OK	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, the information provided on the location of the programme of activity allows for a unique identification of the location and the boundary of the CPA in terms of the geographical area.	/1/	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 correct format.	/1/	~~OK~~	OK
A.8.2 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?	Yes, Start date of the CPA can be after the start date of the PoA (which is the date of publication of the PoA-DD for global stakeholder consultation). raised.	/1/	OK	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	/1/	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?	Fixed crediting period has been chosen and the length of crediting period is 10 years.	/1/	OK	OK
A.9.1 Choice of the crediting period and related information				
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 indicated in (DD/MM/YYYY) format, and line with PoA requirements.	/1/	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 clearly indicated as 10 years and is plausible.	/1/	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?	Fixed crediting period has been chosen and the length of crediting period is 10 years.	/1/	OK	OK

A.9.2.1.2 Does the total renewal periods comply and do not exceed the PoA validity period?	Yes, the crediting periods comply and do not exceed the PoA validity period.	/1/	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 and the total GHG emission reductions over the chosen crediting period (or the first crediting period) provided in the table.	/1/	OK	OK
A.11. Public funding of the CPA				
A.11.1 Does the PoA receives public funding from Parties included in Annex I?	It has been stated in section A.11 of CPA-DD that CPA does not receive public funding. This is consistent with section A.4.5 of PoA-DD and with actual situation.	/1/	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			
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?	CME for the PoA has confirmed that the CPA is neither registered as an individual CDM project activity nor is part of another registered PoA.	/1/	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,	NA, since environmental analysis takes place at PoA level	/1/	OK	OK
B.1.2 Does the description and the analysis of environmental impacts undertaken is as per the PoA.	Refer section B.1.1 above	/1/	OK	OK
B.2. Environmental impact assessment				
B.2.1. Is an environmental impact assessment required?	NA	/1/	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?	NA	/1/	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 PoA level.	Yes, environmental analysis is provided at the PoA level.	/1/	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?	NA, since LSC took place at PoA level	/1/	OK	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?	NA, since LSC took place at PoA level	/1/	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?	NA, since LSC took place at PoA level	/1/	OK	OK
C.3.2. In case the section C1and C.2 is kept blank. Is it indicated and confirmed that the stakeholder consultation information is provided at the PoA level?	NA, since LSC took place at PoA level	/1/	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?	AMS-II.G "Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass", Version 03.0 is applied.	/1/	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, All applicability condition of applied methodology described explicitly in CPA-DD.	/1/	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. Refer to D.2.1	/1/	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?	Yes, the sources and GHGs included in the CPA boundary According to the eligibility criteria (a) for this PoA.	/1/	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, proof has been provided that the CPA is located within the geographical boundary of the registered PoA.	/1/	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, explained and justified using the table provided.	/1/	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?	NA			

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?	The baselines scenario and its identification is in accordance with the PoA.	/1/	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. Please refer to section D.2 of this report for assessment of each of the eligibility criteria Refer section D.2 of this report .	/1/	OK	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 on the boundaries of regional or state or sub-regional grids.	NA	NA	NA	NA
(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);	NA	NA	NA	NA
(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	NA	NA	NA	NA

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.				
(d) Conditions to check the start date of the CPA through documentary evidence;	NA	NA	NA	NA
(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;	NA	NA	NA	NA
(f) The conditions that ensure that the CPA meets the requirements pertaining to the demonstration of additionality as assesed in section B.1 above;	NA	NA	NA	NA
(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”.	NA	NA	NA	NA
(h) Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance;	NA	NA	NA	NA
(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.	NA	NA	NA	NA

(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";	NA	NA	NA	NA
(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".	NA	NA	NA	NA
(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".	NA	NA	NA	NA

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, based on the applied methodology, for calculating baseline emissions applied to the CPA provided in the CPA DD.	/1/	OK	OK
D.6.1.2 Is 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?	The equations are correctly used for calculation.	/1/	OK	OK
D.6.1.3 Is 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?	The equations are correctly used for calculation.	/1/	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?	The equations are correctly used for calculation.	/1/	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.	/1/	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	Yes, the compilation of information on the data and parameters that are not monitored during the crediting period but are	/1/	OK	OK

provided?	determined before the registration and remain fixed throughout the crediting period described and provided.			
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?	Refer section D.6.2.1 above	/1/	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 and procedures to enable Calculation of baseline emissions; Project Emission, Leakage Emission, Emission Reduction? Pleas list all ex-ante parameters (as below) along with their values and provide an assessment on its appropriateness.	Yes, all data or parameter, complete with respect to the: "Value(s) of data applied, Choice of data, Purpose of data, Measurement methods and procedures to enable Calculation of baseline emissions; Project Emission, Leakage Emission, Emission Reduction. Refer section D.5.2 of this report.	/1/	OK	OK
Parameter	**Description**	**Verified Value**	**Verified Source**	
$f_{NRB,y}$	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass	0.93	Detailed calculation provided in appendix-3 of the CPA DD /01/. The value of this parameter is fixed ex-ante in the PoA DD /B02/.	

B_{old}	Quantity of woody biomass used in absence of the project activity in three-stone fires or traditional pot supports per household	4.21 (Kaduna), 5.1129 (Kano) Tonnes / stove / year	The values were sourced from baseline survey /11/. The value of this parameter is fixed ex-ante in the PoA DD /B02/.	
η_{old}	Efficiency of 3-stone fire or traditional pot support cooking method (system being replaced)	0.1	Default value as per AMS-II.G. Version 03 0) /B03/.	
$EF_{projected\_fossilfuel}$	Emission factor for the substitution of non-renewable woody biomass by similar consumers	81.6 tCO_2/TJ	2006 IPCC Guidelines for National Greenhouse Gas Inventories	
LE_y	Net to gross adjustment factor to account for leakages	0.95	Default value as per AMS-II.G. (Version 05.0) /B03/.	
$NCV_{biomass}$	Net calorific value of the non-renewable woody biomass that is substituted	0.015	Default value as per AMS-II.G. (Version 05.0) /B03/.	

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, it is provided in the specific CPA.	/1/	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 as per Standard for sampling and surveys for CDM project activities and programme of activities.	/1/	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?	All equation applied to calculate baseline emissions are in line of applied methodology.	/1/	OK	OK
D.6.3.4. Are the relevant, additional background information and/or data (including relevant electronic) spreadsheet provided in Appendix 4?	Yes, all the relevant, additional background information and/or data (including relevant electronic) spreadsheet provided.	/1/	OK	OK
D.6.3.5 Is a sample calculation for each equation used, substituting the values used in the equations Provided?	Not applicable			
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?	Yes, it is provided in the table.	/1/	OK	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,	Yes, information related to procedures for	/1/	OK	OK

recording, collected, archiving of data and parameters that is required for estimation and calculation of Emission Reduction provided?	measurement, monitoring, recording, collected, archiving of data and parameters that is required for estimation and calculation of Emission Reduction provided in clear and transparent manner.			
D.7.1.2 Are all data or parameter, complete with 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, Leakage Emission, Emission Reduction ?	Yes.	/1/	OK	OK
D.7.1.3 Are the relevant, additional background information on data and parameters to be monitored is provided in Appendix 5?	It is fulfilled.	/1/	OK	OK
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?	The procedure for monitoring, data collection, recording, checking, data transfer and archiving system for CPA are appropriate and in line with applied methodology.	/1/	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.	/1/	OK	OK