

CDM PoA VALIDATION REPORT

OF

AFRICAN IMPROVED COOKING STOVES PROGRAMME OF ACTIVITIES

GLC Report No: 223, Rev. 11

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African Improved Cooking Stoves Programme of Activities
GLC Report No. 223, Rev. 11



Organisational Unit			
Germanischer Lloyd Certification GmbH (GLC), Greenhouse Gas Services			
Client		Client reference person	
Envirofit International Ltd		Randall Monson	
Summary:			
PoA-DD:	African Improved Cooking Stoves Programme of Activities		
Generic CPA-DD:	African mproved Cooking Stoves Programme of Activities – CPA No. ##### (state country in which the CPA takes place)		
Project Host Country(ies):	Party	Directly involved as PP?	
	Ghana	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	Nigeria	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Annex I Country(ies):	UK	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Coordinating / Managing Entity (CME) and Project Participants (PP):	Envirofit International Ltd		
Sectoral Scope(s), Technical Area(s)	CDM Sectoral Scope 3, Technical Area 3.1.		
Methodology(ies) / Version(s):	AMS-II.G / version 03		
Project Size:	<input type="checkbox"/> Large Scale	<input checked="" type="checkbox"/> Small Scale ¹	
ER Estimation of 1 st CPA:	154,770 t CO ₂ e total	15,477 t CO ₂ e per year	
Start Date of the PoA	13-12-2011		
Start date of the PoA crediting period:	15-12-2012 (or date of registration, whichever is later)		
PoA Duration:	28 years		
CPA Crediting Period:	<input checked="" type="checkbox"/> Fixed (10 years)	<input type="checkbox"/> Renewable (7years)	
Validation opinion:	<input checked="" type="checkbox"/> Positive		
	<input type="checkbox"/> Negative		
Project Assessment Team:	Technical Review Team:	Final Approval:	
Karunakar Avuram Cyprian Fusi	Fernando Rangel Villasana Georg Zenk	Markus Weber	
Date of this revision:	Revision No.	Number of pages	
2012-12-05	11	123	
Mode of Distribution:			

¹ The PoA shall also include micro-scale CPAs

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History of report revisions:

Rev.	Date	Person (short sign or name)	Function	Action
01	2012-04-19	Cyprian Fusi	TA	Draft report
02	2012-05-18	Karunakar Avuram	ATL + Technical expert (assessment)	Technical expert inputs to draft report
03	2012-06-13	Cyprian Fusi	TA	Revision as per expert input
04	2012-06-29	Karunakar Avuram	ATL + Technical expert	Completion of draft report
05	2102-07-07	Fernando Rangel Villasana	Technical Review	Review with revisions and comments
06	2012-07-12	Cyprian Fusi	TA	Revision as per TR input
07	2012-07-29	Georg Zenk	Technical Expert	Review with revisions and comments
08	2012-08-23	Cyprian Fusi	TA	Revision as per TE input
09	2012-08-29	Markus Weber	Final Reviewer and Approver	Final review and approved
10	2012-12-03	Cyprian Fusi	TA	Revision as per incomplete
11	2012-12-05	Markus Weber	Final Reviewer and Approver	Final review and approved

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Abbreviations

ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology Small scale
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board (the board)
CER	Certified Emission Reduction
CL/CR	Clarification Request
CME	Coordinating and Managing Entity
CMP	Meeting of the Parties to the Kyoto Protocol
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
COP/MOP	The Conference of the Parties to the United Nations Framework Convention on Climate Change serving as the Meeting of the Parties to the Kyoto Protocol
CPA	Component Project Activity
CPA-DD	CDM Project Activity Design Document
DNA	Designated National Authority
DO	Distributing Organisation
DOE	Designated Operation Entity
EIA	Environmental Impact Assessment
EF	Emission Factor
FAO	Food and Agriculture Organization
FAR	Forward Action Request
GSC	Global Stakeholder Consultation
GHG	Greenhouse gas
GLC	Germanischer Lloyd Certification GmbH
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Country
LoA	Letter of Approval
NGO	Non-governmental Organisation
NRB	Non-Renewable Biomass
ODA	Official development assistance
O&M	Operation and maintenance
PDD	Project Design Document
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
PP	Project Participant (s)
SSC	Small Scale CDM
SME	Small and Medium size Enterprises
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual
WHO	World Health Organisation

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1 INTRODUCTION

Envirofit International Ltd has commissioned Germanischer Lloyd Certification GmbH (GLC) to perform the validation of the **African Improved Cooking Stoves Programme of Activities** (hereafter called "the PoA") with its first CPA in Ghana. This validation report summarizes the findings of the validation of the PoA, performed on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the subsequent decisions made by COP/MOP and the CDM Executive Board.

1.1 Objective

The purpose of a validation is to have an independent third party assessment of the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated by a Designated Operational Entity (DOE) in order to confirm that the project design as documented in the completed:

- PoA Design Document (PoA-DD),
- CDM Project Activity Design Document generic (CPA-DD) with generic information relevant to all CPAs
- CPA-DD specific case² based on the application of the PoA to one real case
- Relevant supporting documents

is sound and reasonable and that it meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reductions (CERs). The executing DOE can only provide a validation/inclusion opinion but the ultimate decision whether a project is registered or not rests with the CDM Executive Board (CDM-EB).

1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the PoA-DD, generic CPA-DD and the specific case CPA-DD (together hereafter referred to as "PDDs") and supporting documentation. The PDDs^{1/} and supporting documentation are reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the Approved Baseline and Monitoring Methodology AMS-II.G, (version 03). The validation was based on the recommendations and guidance of the [Validation and Verification Manual](#), VVM version 1.2^{6/}, PoA related CDM requirements according to EB 55 Annex 38 [Procedure for registration of a programme of activities as a single project activity](#) version 4.1^{27/}, EB 65 Annex 3 and EB 70 Annex 5 [PoA Standard](#)^{3/}.

² A separate validation report is provided for the inclusion of the specific case CPA to the PoA

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

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2 VALIDATION TEAM

2.1 Assessment Team

A competent team with relevant knowledge and experience in the specific scopes and sectors was appointed by GLC. The appointment of the team takes into account the required scope, technical area, knowledge of the host country and general project activity knowledge requirements for validating the PoA design and the relevant CERs will be achieved by the CPA(s) under the PoA. The appointment of the audit team also includes a screening of everyone involved against any conflict of interest. The assessment team is composed of an Assessment Team Leader (ATL), Auditors (A) and Host Country or Technology Expert (E). Table 2-1 below shows the composition of the assessment team their qualifications and/or functions.

Table 2-1: Validation team members, qualification and knowledge

Name (Surname, given name)	Function ¹⁾	Sectoral scope specific knowledge	Technical area specific knowledge	Local knowledge	Type of involvement				
					Desk review	On-site visit / interviews	Reporting	Supervision of work	Expert input
Avuram, Karunakar	ATL + TE	X	X		X	X		X	
Fusi, Cyprian	TA			X	X	X	X		

1) ATL: Assessment Team Leader; A: Auditor; TE: Technical Expert;

2.2 Technical Review and Final Approval Team

Before submission of the final Validation Report to EB of the UNFCCC, a technical review of the whole validation procedure and the draft report was carried out by Technical Reviewer(s) appointed by GLC. The appointed technical reviewer team is composed of competent GHG auditors for the sectoral scope and technical area under which this PoA falls. Each involved reviewer is not directly involved in the validation assessment up to the start of the internal technical review phase of this project.

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As a result of the internal technical review process, the validation opinion and the topic specific assessments as prepared by the ATL may be confirmed or revised. Further reporting improvements might be achieved during the technical review and approval processes.

Finally, the PoA-DD, CPA-DD (generic and real case), validation reports and any document to be submitted to the EB have to undergo an internal quality control and completeness check before they are approved to be uploaded to start the request for registration of the validated CDM project activity. The Technical Review team and the person responsible for approval of the report are found in the table below:

Table 2-2: Technical Review and Approval Team.

Name (Family name, given name)	Qualification / Function ²⁾	Technical Area Knowledge	Sectoral Scope Expertise	Type of Involvement	
				Review	Approval
Villasana, Fernando	R			X	
Georg Zenk	R			X	
Weber, Markus	FR+FA			X	X

2) R: Technical Reviewer, TE: Technical Expert, FR: Final Reviewer, FA: Final Approval.

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3 METHODOLOGY

The validation consists of the following three phases:

- I. Desk review of the PoA-DD, CPA-DD generic, CPA-DD Specific Case^{1/} and other supporting documents. This includes the preliminary compliance check of the project design against the applicability conditions and with regard to baseline setting and eligible project measures and above all against the Eligibility Criteria for CPA Inclusion.
- II. On-site assessment and follow-up interviews (through email communications, telephone calls, skype, *inter alia*) with project participants and stakeholders.
- III. Resolution of outstanding issues and the issuance of the draft validation report and opinion.
- IV. Technical review of the draft validation reports and other supporting documentation in order to ensure the correctness, completeness and depth of the reporting.
- V. Finally the report and supporting documentation has to be approved by a competent person before they are submitted to CDM-EB for request for registration.

This final validation report summarizes the findings after all phases of the validation process have been completed. The following sections outline each step with more details.

3.1 Desk Review of the PDDs and Supporting Documents

The initial version of the PDDs as well as other supporting background documents related to the project design and baseline submitted by the PP, were initially assessed in the context of a desk-review in order to verify the correctness, credibility and interpretation of the presented information. A further crosscheck of the information provided was done with information from other sources as available. Preliminary findings from the desk review were sent to the PPs together with the audit plan to prepare for the subsequent on-site visit.

Desk review is based on the first versions of the PoA-DD, CPA-DD generic and CPA-DD specific case of Ghana which were uploaded to launch the Global Stakeholder Consultation (GSC) from 2011-12-13 to 2012-01-11.

A complete list of documentation reviewed during the validation process is presented as Information Reference in section 6 of this report.

3.2 On-Site Assessment and Follow-Up Interviews with Project Stakeholders

From January 25, 2012 to January 28, 2012, members of the assessment team as appointed by GLC conducted an on-site audit in Ghana where the 1st CPA will be implemented. The following site(s) was / were visited:

- Kumasi where the implementation of the 1st CPA will start;

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- Office of the CPA Implementer, [Centre for Energy, Environment and Sustainable Development \(CEESD\)](#) in Kumasi
- Local Council in Kumasi
- Office of the Ghanaian DNA in Accra
- Ministry of Energy in Accra

In the context of such on-site visits, GLC performed interviews with the relevant stakeholders and potential end users of ICS and also an assessment of project related documents provided by the project participants. The members of the validation team also conducted interviews with representatives of government (Officials from the Ministry of Energy and DNA) in order to confirm selected information and to resolve issues earlier identified during the desk review of documents. The main topics addressed during the interviews includes, inter alia:

- Project design and adopted technology
- Demonstration of baseline and additionality
- Project implementation timeline and any risk of delay
- GHG emission reduction calculations
- Application of the monitoring methodology as well as expected design and application of the monitoring and managing plan
- Local Stakeholder Consultation process
- Assessment of environmental impacts, environmental licensing and legal compliance of the project and baseline scenario with applicable regional and national legislation.
- Calculation of Fraction of Non-Renewable Biomass (f_{NRB})
- Letter(s) of Approval(s) by the respective countries' DNA

The names of those interviewed during the validation process are listed below in Table 3-1.

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Table 3-1: Interviewed Persons

Name		Position / Organization /
1	Killian Wentrup	CDM Consultant, Perspectives Climate Change GmbH
2	Ronnie Twesigye	South Pole Carbon Assets Management
3	Nathan Lorenz	Vice President Engineering, Envirofit International Ltd.
4	Edward Antwi	CEESD
5	Edem Bensah	CEESD
6	Peter Dery	DNA / Ministry of Environment, Science and Technology
7	Kyekyeku Yaw Oppong-Boadi	UNFCCC Focal Point, Ghana
8	Gifty Tettey	Ministry of Energy, Ghana
9	Owusu Frempong-Boadu	Municipal Coordinating Director, Kumasi
10	Christian Owusu-Ansah	Deputy Municipal Coordinating Director, Kumasi
11	Asiedu Zipporah	CEESD
12	Joseph X.F. Ribeiro	CEESD
13	Julius C. Ahiekpor	CEESD
14	Damphey Kofi Nyame	CEESD
15	Ernest Appan	CEESD
16	Obed Kofi Asamoah	CEESD
In addition to the above interviewed persons, 24 Would-be End Users of ICS were interviewed in the 1 st CPA area in Kumasi in order to confirm the baseline (signed participation list is available and would be provided if requested).		

3.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation was to resolve any outstanding issues which needed to be clarified prior to GLC's final conclusion on the project design as described in the Project Design Documents (PDDs) and supporting documentation. In order to ensure transparency, a validation questionnaire was customised for the project, according to the latest version of the applied methodology ([AMS-II.G version 03^{2/}](#)) and [Validation and Verification Manual \(VVM\)](#) ^{16/} and PoA related CDM requirements according to EB 55 Annex 38 [Procedure for Registration of a PoA as a single Project Activity](#) version 4.1^{27/}, EB 70 Annex 5 and EB 65 Annex 3 [PoA Standard](#)^{3/}. This questionnaire shows in transparent manner VVM requirements, source, means and findings of validation as well as the results from validating the identified criteria. The validation questionnaire serves the following purposes:

- It organises, details and clarifies the requirements a CDM project activity / PoA is expected to meet;
- It ensures a transparent validation process where the validators will document how a particular requirement has been validated and the result of the validation.

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The validation questionnaire consists of one table with sub-sections. These sections are related to the different topics which have to be validated and checked with respect to the VVM and PoA requirements. The completed validation questionnaire for the **African Improved Cooking Stoves Programme of Activities** is enclosed in Annex A to this report. The different columns of this questionnaire are explained in Table 3-2.

Findings established during the validation can either be seen as a non-fulfilment of criteria of the applicable CDM baseline and monitoring methodology, and/or applicable criteria of the CDM or where a risk to the fulfilment of PoA objectives is identified.

Corrective action requests (CAR) are issued, where:

- i) the project participants have made mistakes that will influence the ability of the PoA to achieve real, measurable additional emission reductions; or
- ii) applicable baseline and monitoring methodology, and/or applicable criteria of the CDM have not been met; or
- iii) there is a risk that emission reductions cannot be monitored or calculated or that the project would not be accepted as CDM project activity

A clarification request (CL) may be used provided information is insufficient or not clear enough to determine whether the applicable CDM PoA requirements have been met or where additional information is needed to fully clarify a particular issue.

The validation questionnaire consists of individual frames for each Corrective action requests (CAR) and clarification request (CL) raised. The content of each frame is described in the figure below. To guarantee the transparency of the validation process, the concerns raised by GLC and the responses provided by the project participants are fully documented in Annex A of this report.

Forward Action Requests (FARs) are issued during validation to highlight issues related to PoA implementation that require review/assessment during the subsequent verification(s) of the PoA. FARs are not related to the CDM requirements for registration.

The findings are separately presented in a findings list table which is also attached in Annex A. The different columns of this list are explained in Table 3-3.

The resolution of all the 10 CARs and 15 CLs raised for this PoA (PoA-DD) is enclosed in Annex A of this Validation Report. The table shows the interaction between the project participants on one hand and GLC audit team on the other hand which resulted in the revision of the final PDD to version 03.1 of 28/08/2012. Upon successful closure of the raised CARs and CRs the assessment team confirms that there are no remaining non-conformities.

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Table 3-2: Structure of the Validation Questionnaire

CHECKLIST QUESTION / VVM and PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	Assessment based on POA-DD and CPA-DDs in GSP	Conclusion based on Final PoA-DD and CPA-DDs
Lists CDM requirements which the PoA should meet. The checklist is organised in several different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the checklist question or item is from.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR), Clarification request (CL), or Forward Action Request (FAR).	This is either: OK, when the Draft Conclusion is OK or raised CAR/CLs have been successfully closed out; OK, with only FAR remaining; Or: CAR/CLs

Table 3-3: Structure of the Findings List – Resolution of Corrective Action and Clarification Requests

Description of Finding (CAR, CL, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Assessment <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion <i>(OK Closed Out / Not closed out?)</i>
In this column a finding is described in a clear and transparent manner. It also shall be described which further information is needed or which correction must be applied. The date of issue is also indicated.	In this column the PP shall provide a clear statement how to close the finding. This statement shall be sustained with suitable arguments and evidence. The date of issue is also indicated. In case more rounds are necessary, it shall also be indicated.	In this column GLC shall provide the conclusion of the assessment. The finding can be close here or if the argumentation and/or evidence are not suitable a new line below with the continuation of the finding will be opened. The date of issue is also indicated. In case more rounds are necessary, it shall also be indicated.	GLC indicates whether the issue raised in the finding has been closed out or not by indicating OK for closed out or Not OK for not closed out.

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4 VALIDATION REPORTING

4.1 Coordinating and Managing Entity, PoA Participants and Parties Approval

The only project participant indicated in the final PoA-DD in section A.3 and in annex 1 is [Envirofit International Ltd](#) (incorporated in the USA) and it is also the Coordinating and Managing Entity for the PoA. No entities other than the approved project participant are included in these sections of the PoA-DD.

[Envirofit International Ltd](#) has been approved by the UK DNA according to the Letter of Approval ^{/47/} issued on 2012-08-17 authorizing [Envirofit International Ltd](#) as the CME and as a project participant. The UK approval could not be double checked with the [List of Approved Projects](#) published by the UK DNA - Environment Agency - since this list was last updated on 2011-12-06, prior to GSC. However, the original email sent to PP with the LoA attached was forwarded to GLC in which Mr. Kevin Sheridan of UK DNA wrote *"I can confirm that we are now in receipt of the required fee and documents for this project, therefore, please find attached letters of approval for said project."* GLC therefore considers the LoA as authentic

The following Non-Annex I countries have issued Letter of Approvals authorizing [Envirofit International Ltd](#) as the CME of the PoA in their respective countries since according to EB 55 Annex 38 [Procedure for registration of a programme of activities as a single project activity](#) version 4.1^{/27/} *"The operators of individual CPAs are not required to be project participants. CDM programme participation is only recorded at the PoA level."*

The Ghanaian DNA – [Environmental Protection Agency](#) (EPA) - has also issued a Letter of Approval^{/38/} on May 04, 2012 authorizing [Envirofit International Ltd](#) as the CME of the **African Improved Cooking Stoves Programme of Activities** in Ghana.

Mr. Peter Dery in a reply to our request for confirmation mail wrote *"I on behalf on the DNA issued the said LoA...consider it authentic."*

The Nigerian DNA – [Special Climate Change Unit](#) in the Nigerian Federal Ministry of the Environment- has also issued a Letter of Approval^{/48/} on May 09, 2012 authorizing [Envirofit International Ltd](#) as the CME of the **African Improved Cooking Stoves Programme of Activities** in Nigeria.

The Nigerian LoA was confirmed by Dr. Samuel Adejuwon of Nigerian DNA on 2012-08-29 in an email in which he wrote *"Nice talking to you on the telephone from Hamburg. It is my pleasure to confirm that the LoA was duly issued by Nigeria DNA. I wish you successful validation process."*

GLC received these letters from the project participants directly and after double checking, considers the provided letters to be authentic according to VVM § 49(c).

Furthermore, after checking the LoAs provided, GLC is able to confirm that the letters refer to the same proposed CDM project activity titled **African Improved Cooking Stoves Programme of Activities** which is in line with the title in the PoA-DD.

The letters also indicate that each of the participating Party is a Party to the Kyoto Protocol, and that the participation in **African Improved Cooking Stoves Programme of Activities** project is voluntary. The Ghanaian and Nigerian LoAs also confirm that the proposed CDM project activity contributes to the sustainable development of their countries (Ghana and Nigeria as CPA host countries). Based on the information given in these letters, GLC considers the approval and the participation of each of the

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parties as unconditional. The LoA does not specify a version number of the PDD or of the validation report. However, all other references mentioned in the LoA, PDD and validation report are consistent. The requirements of the VVM (§§ 45-48) are therefore considered to be complied with.

4.2 PoA and CPA Project Design Documents

The PoA-DD has adopted CDM-SSC-PoA-DD template version 01 and the generic and specific case CPA-DDs have applied CDM-SSC-CPA template version 01. GLC can confirm that the PoA-DD, CPA-DD generic and CPA-DD specific case have been completed in accordance with relevant [Form and Guidance](#) as provided by UNFCCC. The most recent versions of the PoA-DD, CPA-DD generic and CPA-DD specific case form have been used with relevant information provided by the participants in the applicable sections. The PoA-DD, CPA-DD generic and CPA-DD specific case have all been prepared according to EB 55 Annex 38 [Procedure for registration of a programme of activities as a single project activity](#) version 4.1.^{27/} Correctness and completeness was assessed and documented through the questionnaire (Section A.2) included in Annex A.

4.3 PoA Description - Policy/Measure/Technology or Stated Goal of the PoA

The main objectives of this Programme of Activities (PoA) is the dissemination of improved cooking stoves (ICS) in a number of countries in Sub-Saharan Africa (SSA), starting with Ghana and Nigeria as listed in section A.4.1.1 of the PoA-DD. The individual CPAs under the PoA shall be implemented using biomass-fired energy efficient stove categories that replace existing biomass-fired less efficient cooking stoves. The main fuel used by low-average income households in Sub-Saharan Africa is woody biomass which can either be wood-fuel (fuelwood) or charcoal used in the traditional "three-stone" fire or in other conventional low efficient cooking regimes. According to ICSU³ July 2007 [Sustainable Energy in Sub-Saharan Africa](#)^{8/} *"almost 80% of the population in sub-Saharan Africa depends on biomass resources for cooking."* This woody biomass is predominantly non renewable. The energy-efficient ICSs to be employed in the CPAs consume less woody biomass due to their design and technology. 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 PoA shall also lead to a reduced pressure on forests and woody biomass resources, reduced indoor air pollution associated with use of traditional stoves and to reduction in women and child mortality rate since according to ICSU July 2007 [Sustainable Energy in Sub-Saharan Africa](#)^{8/} *"It is estimated that 393 000 deaths in sub-Saharan Africa in 2002 were due to indoor air pollution from the burning of biomass fuels (WHO, 2006). It is particularly dangerous to women and children as they do most of the cooking."*

Also according to [GTZ April 2008 report on Charcoal in Africa: Importance, Problems and Possible Solution Strategies](#)^{21/} *"In Africa over 90 % of the wood taken from forests is woodfuel. The majority is consumed directly as fuelwood, however, a varying but substantial amount is transformed into charcoal. More than 80 % of it is used in urban areas making charcoal the most important source of household energy in many African cities."*

There are no mandatory policies or regulations mandating the adoption of ICS in Ghana or in Nigeria. Infact no such policies exist in any of the countries in Sub-Saharan Africa according to local knowledge

³ International Council for Science

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and sectoral expertise. The proposed PoA is therefore a voluntary action undertaken by the Coordinating and Managing Entity – [Envirofit International Ltd](#).

The ICSs to be deployed in the CPAs have been designed by [Envirofit International Ltd](#) in the USA, tested according to [Emission and Performance Test Protocol](#)^{/41/} (Biomass stove performance and development of an improved testing protocol) developed by Colorado State University and the stoves are manufactured in China. The CME, however, reserves the right to implement CPAs with ICS from other manufacturers but these must meet the requirements of the methodology. The three stove models to be deployed in this CPA are CH 2200 with an [average thermal efficiency of 38.2%](#)^{/41/}, CH 2300 with an [average thermal efficiency of 39.4%](#)^{/44/} and CH 4400 with an [average thermal efficiency of 31.4%](#)^{/46/}. It is worth mentioning that CH 2300 is a variation of CH 2200 (mentioned in the PoA-DD) but with rounded bottom pot support. This was adapted after end users' feedback following a pilot programme in Kumasi. A value of 36.3% has been applied as the 'efficiency of the system being deployed' in estimating the emission reduction based on an equal deployment of all three models. This is conservative given that CH 2300 with an average thermal efficiency of 39.4% is more popular than CH 2200 and CH 4400 as per the end users' feedback after the pilot project^{/45/}. Actual emission reductions achieved by any CPA shall be calculated using weighted average stove efficiency based on the actual distribution of both stove models. Other stove models in the Envirofit Product line can be found at [Envirofit Product Overview](#)^{/10/}.

For the first CPA under this PoA to be implemented in Ghana the PPs intend to disseminate about 4 500 stoves (a mix of CH 2200, CH 2300 and CH 4400) during the 10 year crediting period; and given that the CPA would be implemented as described in the CPA-DD, it is likely to achieve the estimated amount of emission reductions of 154 770 tCO₂e over the 10 year crediting period, leading to a calculated annual average of 15 477 tCO₂e as indicated in the final CPA-PDD^{/1/} and also in the calculation sheet **ER-African Improved Cooking Stoves PoA_CPA1 Ghana_ver3.2**^{/11/}.

The description of the PoA is complete, accurate and in compliance with the PoA-DD and CPA-DD templates and guidelines and GLC is able to confirm that the CME is in the position to implement the PoA as described in the PoA-DD.

Also, the technology employed is environmentally safe and sound.

4.4 Eligibility Criteria for CPA Inclusion under the PoA

The Coordinating and Managing Entity (CME) has outlined clear and unambiguous Eligibility Criteria for the inclusion of a CPA under this PoA. The Eligibility Criteria, listed in PoA-DD section A.4.2.2 and section B.2 of the generic CPA-DD, have been validated by GLC with regards to:

- The applicability of the applied methodology [AMS-II.G version 03](#)^{/2/},
- Technological requirements,
- Manufacturer's specifications for ICSs (specifications of technology/measure including the level and type of service (stove efficiency)),
- CPA location and boundary,
- Start date of CPA,

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- Scale of CPAs or conditions to ensure that every CPA in aggregate meets the small scale or microscale threshold criteria and remains within those thresholds for the entire creating period,
- Additionality requirement of each CPA,
- Monitoring requirements of each CPA including sampling approach and plan,
- Host country laws and regulations,
- Local Stakeholder Consultations,
- Environmental Impact Analysis,
- Contracts signed between the CME [Envirofit International Ltd](#) and CPA implementers (the so-called Distribution Organisations),
- Avoidance of double counting of ICS under this PoA or in another PoA
- De-bundling Check.
- Calculation of CPA or country specific ex-ante parameters

The eligibility criteria as listed in PoA-DD section A.4.2.2 and also in section B.2 of the generic CPA-DD, and validated by GLC (CAR No. 2), are in agreement with the [Validation and Verification Manual](#)^{/6/} paragraph 167 which states that Eligibility Criteria should "...include inter alia the means of demonstrating the additionality of the CPA and the applicability of the applied methodology." The Eligibility Criteria have been validated in details in [Section A.4.2.2](#) of the validation questionnaire included in annex A of this report. Also the application of the Eligibility Criteria to a typical CPA has been demonstrated in the first CPA in Ghana and validated by the GLC as presented in the CPA validation report submitted together with this report. The Eligibility Criteria as listed in the final PoA-DD are verifiable and also meet the minimum requirements according to EB 70 Annex 5 and EB 65 Annex 3: [PoA Standard](#)^{/3/}. GLC can therefore confirm that the Eligibility Criteria are sufficiently, objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA. And that according to EB 70 Annex 5 and [PoA Standard](#) in §17^{/3/} "the CME shall have the competencies to check the features of potential CPAs and ensure that each CPA meets all requirements and eligibility criteria before inclusion in the registered PoA." The Eligibility Criteria would be validated at the CPAs by the contracting DOE during inclusion.

Correctness and completeness of the Eligibility Criteria was assessed and documented through the validation questionnaire (section A.4.2.2) included in Annex A.

4.5 PoA Management and CPA Monitoring Plan

4.5.1 PoA Operational and Management Plan

Management plan is defined in Section A.4.4 of the PoA-DD and is assessed to be appropriate for this PoA. The overall responsibility for the implementation of the programme lies with [Envirofit International Ltd](#) as the CME.

It has been stated in section A.3 of the PoA-DD that [Envirofit International Ltd](#) is the CME which will be communicating with the Executive Board. The operation and management of the PoA will therefore be coordinated by [Envirofit International Ltd](#). The CME will enter into a contractual relationship with the

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implementers of the various CPAs (so-called Distribution Organisations – ‘DO’) and shall “*provide training and guidance documents on the correct distribution and monitoring procedures to each DO*” according to the following manuals: Training Manual for CPA Distribution Records^{51/}, Monitoring responsibilities for Envirofit Cookstove PoA^{52/} and Distributing Organisation Responsibility Manual – Rev 2.0^{12/}. This contractual arrangement will include the provisions that:

- The CPA implementer (DO) is aware that the CPA will be subscribed to this PoA
- The CPA implementer (DO) cedes its rights to claim and own emission reductions, under the Clean Development Mechanism of the UNFCCC or any voluntary scheme, to the CME of this PoA.
- The CPA implementer (DO) certifies that the CPA is not registered as a single project or under another PoA under the Clean Development Mechanism of the UNFCCC or any voluntary scheme.

This arrangement will help avoid double counting - to avoid the case of including a new CPA that has already been registered either as a CDM project activity or as a CPA of another PoA.

According to [EB 54, Annex 13, par. 10^{5/}](#) for determining the occurrence of debundling under a Programme of Activities (PoA), if each of the independent subsystem/measures included in the CPA of a PoA is not larger than 1% of the small scale threshold defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check, i.e. considered as being not a de-bundled component of a large scale activity. De-bundling criterion for the CPA, as one of the minimum Eligibility Criteria according to EB 70 Annex 5 and EB 65 Annex 3 § 14(f) [PoA Standard^{3/}](#) has been included in A.4.2.2 of PoA-DD. CPAs of PoA are exempted from performing de-bundling check since according to the energy saving calculations included in the final calculation file **ER-African Improved Cooking Stoves PoA_CPA1 Ghana ver3.2^{11/}**, energy savings per ICS is about **13 MWh_{th}/year**, which far below the **1.8 GWh_{th}/year** threshold. Each CPA is therefore exempted from performing de-bundling test as per [EB 54, Annex 13, par. 10^{5/}](#).

[Envirofit International Ltd](#) will supply the ICS to the CPA implementers (DOs) who shall sell to end users at subsidized prices (in anticipation of carbon credits). DOs reserve the right to contract other sales people or agents and to provide the required training regarding data collection and monitoring during sales of ICS.

DOs shall collect and send sales data to the CME periodically while the Monitoring Organisations (to be employed by the CME) shall send monitoring record is provided to the CME on a regular basis. [Envirofit International Ltd](#) shall perform cross-checks on the monitoring information provided to it by the Monitoring Organisation.

The CME shall create, manage and continuously update electronic records - the PoA Distribution & Monitoring Database. This will provide the necessary data for emissions reduction calculations and for preparing monitoring reports for verification. The PoA Distribution & Monitoring Database for each CPA under the PoA will contain the following information per CPA:

1. Name and CPA ID number
2. Name and ID or contact information of end user that will be using the stove

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3. Geographical location of stove (fixed address or GPS coordinates)
4. Category of old stove being replaced
5. Stove distribution date
6. Name and contact details of the registered CPA implementers
7. Number of ICS belonging to the CPA
8. Start of CPA crediting period

Furthermore, the end user keeps a copy of the Distribution Record or sales receipt^{54/} (white copy) while the pink and yellow copies are retained by the DO and CME respectively. This distribution record indicates, among others, the end user's name and address, ICS model, serial number, date when ICS was sold and the logos of both CME and DO. The sales record can be provided by the end user during monitoring and/or verification as proof that the ICS belongs to a CPA under this PoA and not another PoA. This receipt also serves as a CER waiver agreement between end user and CME. This arrangement is considered by GLC as sound and even without additional measures will prevent internal double counting between CPAs or PoAs managed by the CME. The above measures to avoid double counting have also been applied in the registered [Improved Cooking Stoves for Nigeria Programme of Activities](#) in Nigeria. This shall be applied in the first CPA in Ghana submitted together with this PoA.

In order to address the concerns raised during I&RC, the CME has further strengthened the measures to avoid double counting to be implemented in subsequent CPAs under this PoA. Additional measures taken to avoid double counting (to avoid the scenario whereby stoves belonging to a CPA under this PoA is intentionally included and counted in another CPA in another PoA) include in addition to the CME logo which is found on all stoves manufactured by [Envirofit International Ltd.](#) each CPA implementer (DO) shall also be expected to identify all subsequent ICS deployed by them in future CPAs with a programme logo.

GLC can therefore confirm that the management plan is sufficient to avoid double counting of stoves in this PoA or in another PoA.

A sample of the database (still under development at the time) as well as the training manual - Distributing Organisation Responsibility Manual –Rev 2.0^{12/} have been presented to the audit team during the site visit. It was demonstrated during the on-site visit in Ghana how the database shall indicate an error message if a serial number would be entered twice. This, together with all the measures to avoid double counting, GLC can confirm that the proposed CPA and future CPAs shall be uniquely identified. GLC can equally confirm that the CME, with the arrangement in place, will be able to manage and coordinate the PoA as described in the PoA-DD according to the requirements of [Validation and Verification Manual](#), paragraph 166^{6/}, since the structure is "sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme" and that PoA Management System therefore fulfills the requirement of § 17 of EB 70 Annex 5 and EB 65 Annex 3: [PoA Standard](#)^{3/}.

The PoA Management System includes a clear definition of roles and responsibilities and provisions for record keeping, training of personnel and technical review of CPAs before inclusion in the PoA. It also

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provides channels for complains for continuous improvement of the management system. GLC can therefore confirm that the PoA Management System as described in Training Manual for CPA Distribution Records^{/51/}, Monitoring responsibilities for Envirofit Cookstove PoA^{/52/} and Distributing Organisation Responsibility Manual^{/12/} fullfills the requirements of § 17 [a]-[g] of EB 70 Annex 5 and EB 65 Annex 3: [PoA Standard](#)^{/3/}.

4.5.2 Monitoring Plan of a typical CPA

All parameters to be monitored for each CPA as detailed in section E.7.1 of PoA-DD will be monitored according to the Monitoring Plan outlined in E.7.2 of PoA-DD.

Primary data will be collected by CPA implementers and stored according to the procedures defined in section E.7.1 of the PoA-DD. This will include the monitoring of the following parameters as defined in [AMS-II.G version 03](#)^{/2/}.

Data or Parameter to be Monitored		Means of Measurement/Monitoring
1	Efficiency of the system being deployed (η_{new})	<p>This shall be done using Water Boiling Test as prescribed by the methodology AMS.-II.G version 03. This shall involve annual check of the efficiency of all appliances deployed as part of the project activity or a representative sample thereof, at least once every two years (biennial).</p> <p>The three stove models to be deployed in this CPA are CH 2200 with an average thermal efficiency of 38.2%^{/41/}, CH 2300 with an average thermal efficiency of 39.4%^{/44/} and CH 4400 with an average thermal efficiency of 31.4%^{/46/}. It is worth mentioning that CH 2300 is a variation of CH 2200 (mentioned in the PoA-DD) but with rounded bottom pot support. This was adapted from CH 2200 after end users' feedback following a pilot programme in Kumasi^{/45/}. A value of 36.3% has been applied as the 'efficiency of the system being deployed' in estimating the emission reduction based on an equal deployment of all three models. This is conservative given that CH 2300 with an average thermal efficiency of 39.4% is more popular than CH 2200 and CH 4400 as per the end usres' feedback after the pilot project^{/45/}. However, actual emission reduction shall be calculated using weighted average ICS efficiency based on actual distribution of all three stoves CH 2200, CH 2300 and CH 4400.</p>
2	Total number of stoves installed (N_{all})	The value will be obtained from the PoA Distribution & Monitoring Database maintained by the CME.
3	Stove Operation Fraction (SOF)	Measured ex-post through survey / user feedback.

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		<p>This shall involve checking of all appliances or a representative sample thereof, at least once every two years (biennial) to determine if they are still operating or are replaced by an equivalent in service appliance.</p> <p>Neither the parameter nor any default value is explicitly mentioned in the applied methodology. However, PP has assumed a value of 0.95 (95%) in the PoA-DD in estimating emission reduction. This was done to maintain the micro-scale threshold limit.</p>
4	Amount of woody biomass Consumption due to continuous use of old stove or Baseline Stoves (μ_{old})	<p>This is measured ex-post by household survey and according AMS II.G v03. The survey will be done on the basis of the end user's estimation of the amount of wood or charcoal used per day, the number of times per week/month/year.</p> <p>Neither the parameter nor any default value is explicitly mentioned in the applied methodology. However, PP has assumed a value of 0.05 (5%) in the PoA-DD in estimating emission reduction. This was done to maintain the micro-scale threshold limit.</p>
5	The fraction of end users that are still using baseline (replaced) stoves (f_{old})	<p>Sampling will be done <i>ex-post</i> to estimate the value of this parameter through one of two approaches:</p> <p>A) Monitoring the fraction of end users using baseline stoves (f_{old})</p> <p>B) Monitoring the fraction of end users <i>not</i> using baseline stoves ($f_{non,old}$), where: $f_{old} = 1 - f_{non,old}$</p>
6	Calculated average stove operation years in the monitoring period ($Stove_{year}$)	<p>This shall be obtained from the PoA Distribution and Monitoring Database. For a stove that has been in operation for D days in a year ($Stove_{year} = D/365$).</p>

In addition to the above monitored parameters (as prescribed by the methodology), PP has opted to account for **Fractional increase in NRB usage by households outside the project boundary** or leakage emissions related to the non-renewable woody biomass saved by the project activity (or the *bounce effect*) by discounting the quantity of biomass used in the absence of the project activity (B_{old}) with a **net-to-gross adjustment factor (LAF) of 0.95** to account for this leakage.

PP shall not only monitor the continuous use of old baseline stoves but the use of two or more stoves in parallel in a single household. Emission reductions shall only be credited to one improved cookstove per household even if more than one improved cookstoves are found in a household. Overall emission reductions achieved by a CPA shall be discounted or calculated in the most conservative manner as required.

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GLC can confirm that the parameters to be determined *ex-post* have been presented correctly and according to requirements of the applied methodology [AMS-II.G version 03^{2/}](#) and that PPs shall be able to monitor and report emission reductions *ex-post*.

Parameters determined *ex-ante*.

For the data and parameters not to be monitored throughout the crediting period (i.e. they are determined only once and thus remain fixed throughout the crediting period), it is assessed that all data sources, assumptions and calculations are correct, applicable to the project and contribute to a conservative estimate of the emission reductions. For the data and parameters subject to monitoring, it is confirmed that the *ex-ante* estimated values for the monitoring parameters are plausible, and the emission reduction estimates provided in the PoA-DD are reasonable and conservative.

In conclusion, all values used in the PoA-DD and CPA-DD to calculate emission reductions are considered reasonable in the context of the proposed SSC CPA project activity and calculation approach is correct (See PoA Questionnaire section E.6.3 in annex 1 of this report).

The Sampling Method that shall be applied

PP has developed a 'PoA-wide sampling plan' covering both cross-CPA sampling and CPA-specific sampling. This is based on simple random sampling, according to the applied methodology [AMS-II.G version 03^{2/}](#) and as per EB 69 Annex 5 & 4 "Guidelines for sampling and surveys for CDM project activities and programme of activities (version 02.0)" and [Standard for Sampling and Surveys for CDM Projects Activities and PoAs](#) version 3.0^{32/53/} with the requirements of the applied methodology taking precedence. Cross-CPA/PoA level sampling will be the typical approach under the Sampling Plan since the CPAs in the PoA would be expected to deploy similar type of ICSs from same manufacturer - [Envirofit International Ltd.](#), CPA-specific sampling would only be used in the exceptional case where a specific CPA differs greatly from the other CPAs, for example CPAs targeting a specific end user group. The 'PoA-wide sampling plan' thus ensures that all possible cases of CPAs shall be covered. For CPA-specific sampling the households will be sampled using 90/10 confidence/precision (if the parameters shall be sampled annually otherwise, 95/5 confidence/precision shall be applied for biennial sampling) as the criteria for reliability of sampling efforts as per the [Standard for Sampling and Surveys for CDM Projects Activities and PoAs](#) version 3.0^{32/53/}. This is in compliance with [AMS-II.G version 03^{2/}](#) which states that "*when biennial inspection [of a particular parameter] is chosen a 95% confidence interval and a 5% margin of error requirement shall be achieved for the sampling parameter. On the other hand when the project proponent chooses to inspect annually, a 90% confidence interval and a 10% margin of error requirement shall be achieved for the sampled parameters*".

The 'PoA-wide sampling plan' also indicates that in cases where survey results indicate that 90/10 precision or 95/5 precision is not achieved, the lower bound of a 90% or 95% confidence interval of the parameter value may be chosen as an alternative to repeating the survey efforts to achieve the 90/10 or 95/5 precision. This is also as recommended by the applied methodology [AMS-II.G version 03^{2/}](#).

PP would apply 95/10 confidence/precision whenever sampling across a group of CPAs (i.e sampling at PoA level). This would be for parameters, such as efficiencies of the deployed stoves and stove operational fraction, which are not expected to vary largely across CPAs. GLC can confirm that this is in

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line with Standard for Sampling and Surveys for CDM Projects Activities and PoAs version 2.0^{/32/} which states "when a single sampling plan covering a group of CPAs is undertaken..." apply "...95/10 confidence/precision for the sample size calculation".

The sample size calculation as presented in Annex 1 of the PoA-DD has also been reproduced by GLC and it can be confirmed that the proposed sample size calculation approach and sampling method follows the *best practice example* according to § 50 of EB 69 Annex 5 and it is adequate to achieve the minimum confidence/precision requirements (i.e. 95/5 confidence/precision in case of biennial or grouped sampling or 90/10 confidence/precision in case of annual sampling).

In order to ensure that samples would be drawn randomly, PP shall apply the inbuilt excel function to randomly select numbers corresponding to unique ID of cookstoves belonging in a group (in case of group sampling across CPAs) or random numbers corresponding to unique ID of ICS in case of simple random sampling of cookstoves (in case of CPA specific sampling). GLC can confirm that the approach presented by PP can be deemed as appropriate and it is in line with § 37(d) of EB 69 Annex 5.

The sample plan does identify different sample frames based on the fuel type, class of end users and geographic distribution region of ICS under the PoA. The sampling approach is adequate to ensure homogeneity of the parameters to be sampled.

Through document check and interview conducted during the site visit; and based on GLC sectoral expertise it can be confirmed that the monitoring plan described in PoA-DD provides sufficient information and is in compliance with the methodology. It includes elements of sampling design, data to be collected and an implementation plan. All the monitoring arrangements are feasible within the CPA and therefore within the PoA project design and project participant's competence as per VVM paragraphs 122 - 124.

The monitoring plan is to be implemented to enable subsequent verification of emission reductions. The application of the monitoring methodology is transparent and GLC can confirm that the CME will be able to implement the monitoring plan and the project emission reductions would be able to be reported ex-post and verified.

4.6 Starting Date, PoA Duration and CPA Crediting Period

The starting date of the PoA has been unambiguously stated in the PoA-DD section B.1 as **13/12/2011**, defined as the date of publication of the PoA-DD for global stakeholder consultation in accordance with the relevant CDM rules and requirements. The start date of the PoA is therefore reasonably defined as per EB 70 Annex 07 CDM Glossary of terms version 07^{/55/}. The first CPA start date is **03/01/2012** which is after the start of validation/Global Stakeholders Consultation of the PoA. It is worth noting that PPs decided to change the start date from **01/02/2012** indicated on the CPA-DD published at GSC to **03/01/2012** according to the date of shipment of the first contingent of stoves from China^{/50/} (CPA-CL No. 10). The shipment of stoves is considered the first real action towards the implementation of the CPA since CPA implementers get the stoves from the CME and then distribute to end users.

The PoA duration is stated in the PoA-DD section B.2 as 28 years, which is deemed appropriate. The first CPA in Ghana has opted for a fixed 10 year crediting period starting on 15/12/2012 which is the date of registration of the PoA which corresponds to the date of inclusion of the CPA.

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4.7 Baseline and Monitoring Methodology

4.7.1 Applicability of the Selected Methodology to a typical CPA

GLC has checked the compliance with each applicability criterion as listed in the applied baseline and monitoring methodology "AMS-II.G.: [Energy efficiency measures in thermal applications of non-renewable biomass](#) version 3.0^{/2/} and can confirm that all applicability criteria have been demonstrated.

The assessment was carried out for each applicability criterion and included, among others, the compliance check of the local project setting with the applicability conditions with regard to baseline setting and eligible project measures. This assessment also included the review of other sources not provided by PPs, and these sources could confirm that applicability conditions are complied with.

The Methodology specific checklist (validation questionnaire in section E: Application of a baseline and monitoring methodology to a typical SSC-CPA) included in Annex A, documents the assessment process of the applicability check, which also includes the various steps taken in the course of the validation.

- The project involves the replacement of less efficient cooking system with better energy efficient biomass-fired cooking stoves. The three stove models to be deployed in this CPA are CH 2200 with an [average thermal efficiency of 38.2%](#)^{/41/}, CH 2300 with an [average thermal efficiency of 39.4%](#)^{/44/} and CH 4400 with an [average thermal efficiency of 31.4%](#)^{/46/}, all tested according to [Emission and Performance Test Protocol](#)^{/13/}. A value of 36.3% has been applied as the 'efficiency of the system being deployed' in estimating the emission reduction based on an equal deployment of all three models. Other stove models in the Envirofit Product line found at [Envirofit Product Overview](#)^{/10/} all have efficiencies greater than 20%.
- According to [Trends in removals of wood products 1990-2005](#)^{/14/} in Ghana (1st CPA host country), harvested wood can either be industrial roundwood or woodfuel and "*Between 1990 and 2010, Ghana lost an average of 125,400 ha or 1.68% per year. In total, between 1990 and 2010, Ghana lost 33.7% of its forest cover, or around 2,508,000 ha.*" It is also indicated in [Global Forest Resources Assessment 2010 Report](#), Ghana^{/15/} that in 1989 12 870 000 m³ (under bark) of fuelwood were harvested (14 800 500 over bark). Similarly, according to the 2002 [National Action Programme to Combat Drought and Desertification](#)^{/31/} in Ghana "*In 1985, 12 million m³ of fuelwood and charcoal were consumed, accounting for 70% of the country's total energy usage... Woodfuels mainly in the form of fuelwood and charcoal make up 75% or more of the national energy consumption.*" This means woody biomass has been in use since December 1989.
- According to the [Study of the Social and Poverty Impacts of Energy Interventions on Rural Communities in Ghana](#)^{/25/} "*The time spent in collecting wood fuel for cooking, however, is significant and is done primarily by women and children. This human resource spent on meeting energy needs is part of the cycle of poverty*" GLC can confirm based on local and on sectoral expertise that this is a similar story in many low-income communities in Africa.

The results of the compliance check, as well as the relevant evidences, are detailed in Annex A - the validation questionnaire.

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GLC is able to confirm that the chosen baseline and monitoring methodology ([AMS-II.G version 03](#))^{/2/} is applicable to the project activity (CPAs). The applicability of the selected methodology has been included in the list of Eligibility Criteria as required according to EB 65 Annex 3 § 14(f) [PoA Standard](#)^{/3/} and [Validation and Verification Manual](#)^{/6/} paragraph 167 which states that eligibility criteria should *"...include inter alia the means of demonstrating ...the applicability of the applied methodology."*

Emission sources, which are not addressed by the applied methodology, and are expected to contribute more than 1% of the overall expected annual average emission reductions, have not been identified.

This project therefore fulfils all the applicability criteria of the applied methodology and the tools therein.

4.7.2 Project Boundary

This PoA is international and its boundary is defined as the geographical area within which all the small-scale CDM Program Activities (CPAs) included in this PoA will be implemented. The geographical boundary of the PoA will be the national boundaries of all the CPA host countries. The actual boundary for each SSC CPA confines to the physical location of the stoves distributed in that CPA i.e. the households where the stoves are used since according to [AMS-II.G version 03](#)^{/2/} *"The project boundary is the physical, geographical site of the efficient systems using biomass."* The physical boundary of each SSC CPA shall be defined in the CPA-DD and this shall be validated as an Eligibility Criterion by the contracted DOE during CPA inclusion.

4.7.2.1 PoA Boundary

The boundaries (geographically and related to GHG sources / sinks) are correctly given in section A.4.1.2 of the PoA-DD. The geographical boundary of this PoA will be the national boundaries of all the CPA host countries, Ghana and Nigeria in this case as listed in section A.4.1.1. The actual boundary for each SSC-CPA confines to the physical location of the stoves distributed in that CPA, i.e. the households where the stoves are used. The physical boundary of each SSC CPA shall be defined in the CPA-DD and this shall be validated as an Eligibility Criterion by the contracted DOE during CPA inclusion. The CME also reserves the right to expand the PoA boundary post registration according to [EB 60, Annex 26 April 15, 2011](#), para 6 which says *"The Board clarified that the boundary of the programme can be amended postregistration to include an additional Host Party..."*

4.7.2.2 CPA boundary and included sources and greenhouse gases

As per ["AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass version 3.0](#)^{/2/}, the boundary of a typical CPA under this PoA confines to the physical location of the stoves distributed in that CPA i.e. the households where the stoves are used. The information has been also correctly given in section A.4.1.2 of the generic CPA-DD.

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 project and baseline emissions for each CPA.

The methodology indicates CO₂ as the only GHG from baseline and project activity sources to be included in the boundary. GLC confirms that the justification by the PP is reasonable and evidenced.

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Besides, there are no other sources which are impacted by the project and not addressed by the applied methodology.

For the data and parameters not to be monitored throughout the crediting period (i.e. they are determined only once and thus remain fixed throughout the crediting period), it is assessed that all data sources, assumptions and calculations are correct, applicable to the project and contribute to a conservative estimate of the emission reductions. For the data and parameters subject to monitoring, it is confirmed that the ex-ante estimated values for the monitoring parameters are plausible, and the emission reduction estimates provided in the PoA-DD are reasonable and conservative.

In conclusion, all values used in the PoA-DD and CPA-DD to calculate emission reductions are considered reasonable in the context of the proposed SSC CPA project activity and calculation approach is correct.

4.7.3 Baseline Identification of a typical CPA

The procedure to identify the most plausible baseline scenario derived from the applied methodology has been applied correctly and is transparently and sufficiently documented in the PoA-DD.

As prescribed by the methodology [AMS-II.G version 03^{\[2\]}](#) „It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs“. Baseline emission avoided by the implementation of the CPAs is calculated based on emission factor for the substitution of non-renewable woody biomass by similar consumers, quantity of woody biomass that is saved in tonnes, fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass, and on net calorific value of the non-renewable woody biomass that is substituted. GLC can confirm, based on sectoral expertise and based on the onsite visit for the first CPA to be implemented in Ghana, that the baseline scenario is the use of predominantly non-renewable biomass for cooking in a „three-stone“ system or in some kind of low efficiency conventional stoves.

According to November 2011 [Low Carbon Africa^{\[35\]}](#) „Wood and charcoal provide 73 per cent of total energy consumption in Nigeria and 81 per cent in Ghana.“

Efficiency of the system being replaced (fraction) shall be measured using representative sampling methods or based on referenced literature values or weighted average values shall be used if more than one type of system is being replaced. A default value of 0.10 may be optionally used if the replaced system is a three stone fire, or a conventional system with no improved combustion air supply or flue gas ventilation system, i.e. without a grate or a chimney and for other types of systems a default value of 0.2 may be optionally used. This is as prescribed by the applied methodology.

During the on-site audit, for the first CPA, conducted from January 25 to January 28, 2012 GLC audit team interviewed 24 would-be end users of ICS (randomly and unarranged) in order to validate the baseline stove and/or efficiency of the system being replaced. It was discovered that the population in the first CPA country (Ghana) use a wide variety of stoves – predominantly conventional and some kinds of ICS and still some between conventional and ICS. This is also confirmed by the [GTZ April 2008 report on Charcoal in Africa: Importance, Problems and Possible Solution Strategies^{\[21\]}](#) which states

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*"Most households use traditional stoves, which are cheap (from 1.5 to 2 US\$ up) and can be afforded even by poorer households. Examples are traditional stoves from **Ghana**, Kenya, Madagascar and Uganda. Usually they are made of metal without insulation, which allows most of the heat to escape. Although these stoves are slightly more efficient (10 – 25 %) than the three stone fire using wood, their use wastes a lot of charcoal... Traditional charcoal stoves are very common in African cities, used by up to 80 % of the households". And considering that Ghana has seen a certain degree of ICS penetration, a CAR was raised regarding the choice of 0.1 or 10% efficiency of the system being replaced mentioned in the CPA-DD uploaded for GSC. Considering information from the following sources:*

- November 2011 [Low Carbon Africa-Ghana](#)^{/37/} *"There is a huge opportunity for the improved cookstoves projects to be replicated and scaled-up. This is because only 23 per cent of the potential charcoal cookstoves market has been reached, not to mention the equally huge improved firewood cookstoves market that remains practically unserved."*
- The [Ghana Demographic and Health Survey](#) *"The GDHS 2008 results indicate that all (100 percent) households that use solid fuel for cooking do so without a chimney or hood, and there is no marked difference between urban and rural areas. A closed fire or stove with a chimney is used by less than 1 percent of households in Ghana."*
- The 2009 [WHO-UNDP](#)^{/36/} *"Access to improved cooking stoves is also very limited. In LDCs and SSA, only 7 percent of people who rely on solid fuels use improved cooking stoves to help reduce indoor smoke."*

Therefore the weighted average efficiency of **0.101** or **10.1%** of the system being replaced in Ghana presented by the PP and validated by GLC is confirmed to be appropriate, representative and conservative.

As for the calculation of the fraction of non-renewable biomass fraction (f_{NRB}), according to [Trends in removals of wood products 1990-2005](#)^{/14/} in Ghana, harvested wood can either be industrial roundwood or woodfuel. GLC audit team therefore questioned the conservativeness of the approach adopted by PP by applying total harvest (industrial roundwood and for fuelwood) in the calculation of f_{NRB} . The PoA-DD has been revised to include the approach for calculating the fraction of non-renewable biomass for future CPAs. PPs have conservatively adopted the approach in [Information note: Default values of \$f_{NRB}\$ for LDCs and SIDs](#)^{/43/} of annex 20 of CDM-SSC WG 35th Meeting Report for the calculation of f_{NRB} considering only biomass used in household is considered and not the total biomass harvest. Also Project participants shall use applicable default values, detailed formulas or approved tools provided by the UNFCCC to establish f_{NRB} , as available at the time of CPA inclusion. The value of f_{NRB} value for the first CPA in Ghana so obtained is **99%**. This is same as the [default value for Ghana](#). GLC can therefore confirm that the baseline for the first CPA in Ghana (i.e. with respect to the fraction of woody biomass used in the absence of the project activity in year y that can be established as non renewable) has been calculated correctly and according to the applied methodology.

Each CPA-DD shall present the key parameters for the baseline determination for that specific CPA under section B.5.1. and this shall be validated accordingly during inclusion. This shall include any CPA or country specific parameters (e.g in case of Nigeria) as indicated in Eligibility Criteria No. 17 in the PoA-DD.

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If the CPA baseline corresponds to the use of non renewable woody biomass for cooking, the fraction of woody biomass used in the absence of the project activity in year y that can be established as non renewable will have to be determined as per the relevant provisions of [AMS-II.G version 03^{12/}](#).

The approach used by PPs to determine the fraction of non-renewable woody biomass (f_{NRB}) as indicated in the final PoA-DD has been evaluated to be appropriate. For the first CPA the sources of data applied are reliable and publicly available. Use has been made of default values from reliable sources such as **2010 Forest Management and Legal Status** in [FAO FRA 2010, global tables, table 6^{16/11/}](#) and data from [IPCC 2006, Vol. 4, Table 4.9^{17/11/}](#).

However, since the PoA/CPA will be implemented in several countries in Sub-Saharan Africa having different definition of forest and different data on forest, the calculation of the Non-Renewable Biomass fraction (f_{NRB}) shall be validated at CPA level during inclusion of the first CPA in a host country. Subsequent CPAs to be included in the same country may refer to the f_{NRB} calculated for the first CPA except otherwise, for example if new EB guidelines would compel CPAs to adopt some default values.

It is worth mentioning that GLC relied on publicly available information from recognized institutions instead of on nationally obtained statistics to validate the baseline since according to FAO's [Assessment of the status of the development of the standards for the Terrestrial Essential Climate Variables^{126/}](#) "... biomass information is uncertain for many developing countries, which are often those undergoing the fastest rates of deforestation. National inventories differ greatly in definitions, standards and quality, and the detailed information available at national level is normally unavailable internationally". GLC can confirm that the calculation method of f_{NRB} in CPA-DD is consistent with that presented in the PoA-DD and the sources of the parameters have been confirmed to be appropriate (Section E of CPA-DD questionnaire).

There are no mandatory policies or regulations mandating the adoption of ICS in Ghana or in Nigeria. And according to local knowledge and sectoral expertise no such policies exist in any of the countries in Sub-Saharan Africa. The proposed PoA is therefore a voluntary action undertaken by the Coordinating and Managing Entity – [Envirofit International Ltd.](#)

Through document review and based on interview with the CME it has been verified that the baseline scenario is identified according to the methodology; and in regard to item 87 of VVM. GLC hereby confirms the following statements:

- a) All the assumptions and data used by the project participants are listed in the PoA-DD, including their references and sources;
- b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA-DD;
- c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PoA-DD;

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- e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM PoA.

4.7.4 Algorithms and Formulae used to Determine Emission Reductions

The PoA-DD has applied the required approach and equations to calculate baseline emissions, project emissions, leakage and emission reductions as per the applied methodology, [AMS-II.G version 03](#)^[2].

Detailed information on the validation of the parameters used in the equations can be found in Annex A – Validation Questionnaire. The algorithms for the determination of the baseline, project, and leakage emissions are discussed below in subsequent sections of this report.

Corresponding calculations were carried out based on the calculation spreadsheets – **ER-African Improved Cooking Stoves PoA_CPA1 Ghana_ver3.2**^[1] for the first CPA in Ghana to be included under this PoA. The parameters and equations presented in the PoA-DD and CPA-DD as well as in other applicable documents have been compared with the information and requirements presented in the methodology and other applicable tools. The equation comparison has been made considering all the formulae presented in the final calculation sheet “**ER-African Improved Cooking Stoves PoA_CPA1 Ghana_ver3.2**^[1]” submitted together with this report.

The assumptions and data used to determine the emission reductions are listed in the PoA-DD and all the sources have been checked and confirmed (Section E.6 of PoA-DD questionnaire).

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the Ghana CPA-DD. The values presented in the PoA-DD and in the first CPA-DD are considered reasonable based on the documentation and references reviewed as well as on the result of interviews conducted during the site visit.

The baseline methodology has been correctly applied according to requirements.

The estimate of the baseline emissions can be confirmed to be the same as that which have been replicated by the audit team using the information provided.

Detailed information on the validation of the parameters used in the equations can be found in Annex A – Validation Questionnaire. The algorithms for the determination of the baseline, project, and leakage emissions are discussed below in subsequent sections of this report.

Baseline Emission of a typical CPA:

As per [AMS-II.G version 03](#)^[2], the main sources of baseline emissions are CO₂ emissions from fossil fuels (or Non Renewable biomass) used in households for cooking.

The baseline emissions avoided due to the implementation of a CPA are calculated using the equation

$$ER_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossilfuel}$$

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PPs have used publicly available data from **2010 Forest Management and Legal Status** in [FAO FRA 2010, global tables, table 6^{/16/}](#) and data from [IPCC 2006, Vol. 4, Table 4.9^{/17/}](#) in calculating the Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass (f_{NRB}). The Quantity of woody biomass ($B_{y,saving}$), in tonnes, that is saved by the implementation of a CPA has been determined from estimate of average annual consumption of woody biomass per appliance ($Q_{biomass}$ tonnes/year) multiplied by the number of appliance (N_{all}).

PPs have conservatively adopted the approach in [Information note: Default values of \$f_{NRB}\$ for LDCs and SIDS^{/43/}](#) of annex 20 of CDM-SSC WG 35th Meeting Report for the calculation of f_{NRB} considering only biomass used in household is considered and not the total biomass harvest. This is according to [Clarification on the determination of \$f_{NRB}\$ in AMS-II.G^{/28/}](#) "woody biomass is determined to be renewable based on the area(s) from which the woody biomass originates" and "both NRB and DRB refer to quantities of woody biomass used" as woodfuel for cooking. The value of f_{NRB} value for the first CPA in Ghana so obtained is **99%** which is same as the [default value for Ghana](#). Project participants shall also use applicable default values, detailed formulas or approved tools provided by the UNFCCC to establish f_{NRB} , as available at the time of CPA inclusion.

GLC can therefore confirm that the baseline emissions for the first CPA in Ghana have been calculated correctly and according to the applied methodology [AMS-II.G version 03^{/2/}](#).

Since the PoA is international, the baseline shall be established at the CPAs, as indicated in Eligibility Criteria No. 17, and validated during inclusions by the contracted DOE.

Project Emission of a typical CPA:

The main sources of project emissions as per the methodology are CO₂ emissions from fossil fuel consumption for cooking in the project activity. However, the calculation of project emission has not been foreseen in the applied methodology since this has been factored in the determination of the Quantity of woody biomass ($B_{y,saving}$), in tonnes, that is saved by the implementation of a CPA.

Leakage Emission of a typical CPA:

According to the applied methodology [AMS-II.G version 03^{/2/}](#) project activity under a programme of activities can apply this methodology if leakages are estimated and accounted for.

In section B.5.2 of CPA-DD PPs have indicated that the use and /or diversion of non-renewable woody biomass saved under the project activity by non-project households or users that previously used renewable energy sources will be accounted for. This so-called 'bounce effect' will be accounted for by adjusting the quantity of biomass used in the absence of the project activity (B_{old}) or by multiplying this parameter by a **net-to-gross adjustment factor of 0.95 (LAF)** to account for this leakage in which case surveys are not required.

Emission Reductions of a typical CPA:

Emission reductions would be the emissions avoided by the implementation of the project activity discounted by any leakage emissions caused by the project activity. The ER is calculated as follows:

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$$ER_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossilfuel}$$

The first CPA in Ghana would achieve a total emission reductions of **154 770 tCO₂e** in the 10 year crediting period and an average of **15 477 tCO₂e** per year as indicated in the final CPA-PDD^{/1/} and presented in the calculation sheet **ER-African Improved Cooking Stoves PoA_CPA1 Ghana v3.2^{/11/}**.

In conclusion, all values used in the PoA-DD and CPA-DD to calculate emission reductions are considered reasonable in the context of the proposed SSC CPA project activity and calculation approach is correct.

4.8 Additionality of the Programme of Activity and of a typical CPA

Additionality of the PoA and its CPAs has been demonstrated by establishing that in the absence of CDM, none of the implemented CDM Project Activity (CPA) would occur.

The **African Improved Cooking Stoves Programme of Activities** is considered additional – the emission reductions achieved by the CPAs under the PoA would be below those that would have occurred without the implementation of the measure.

Additionality of a typical SSC-CPA is being demonstrated by applying EB 65 Annex 3 **PoA Standard^{/3/}** which states "*PoAs that will include one or more microscale projects as CPA shall include eligibility criteria derived from all the relevant requirements of the Guidelines for demonstrating additionality of microscale project activities and PoAs that will include one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A of Appendix B of the Simplified modalities and procedures for small-scale CDM project activities*".

The adopted EB 63, Annex 23 "**Guidelines for demonstrating additionality of microscale project activities**" (Version 03)^{/9/} is being applied to CPAs that aim to achieve energy savings at a scale of no more than 20 gigawatt hours per year (equivalent to **60 GWh thermal per year**) and is located in a LDC/SID or special underdeveloped zone of the host country as identified by the Government before 28 May 2010 or where each of the independent subsystems or measures in the CPA will achieve an estimated annual energy savings equal to or less than 600 megawatt hours (equivalent to **1.8 GWh thermal per year**). In this case the end users of the subsystems or measures should be households or communities or small and medium size enterprises (SMEs).

For SSC-CPA with energy savings higher than 60 GWh_{th} and under 180 GWh_{th} per year⁴ the criteria outlined in **Attachment A to Appendix B^{/20/}** of the Simplified Modalities and Procedures for small-scale CDM project activities will be applied.

Microscale CPAs achieving energy savings at a scale of no more than 20 GWh per year (equivalent to **60 GWh thermal per year**) is automatically deemed additional as per the adopted EB 63, Annex 23 "**Guidelines for demonstrating additionality of microscale project activities**" (Version 03)^{/9/} as applied in the first CPA in Ghana which is included in this PoA at request for registration (See CPA validation report).

⁴ According to **Clarification about the threshold of thermal energy savings in AMS-II.G^{/19/}** "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**"

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4.8.1 Prior and Continuous Consideration of the Clean Development Mechanism

The starting date of the PoA is **13/12/2011**, defined as the date of publication of the PoA-DD for global stakeholder consultation in accordance with the relevant CDM rules and requirements. The start date of the PoA is therefore reasonably defined as per EB 70 Annex 07 CDM Glossary of terms version 07^{55/}. The first CPA start date is **03/01/2012** which is after the publication of the PoA for GSC on **13/12/2011**. Therefore the PoA is exempted from the assessment of prior consideration of the CDM.

4.8.2 Identification of Alternatives to the PoA

According to document review and follow up interviews with PPs, it can be confirmed that the CPAs to be implemented under this PoA would either be microscale or small scale.

According to EB 65 Annex 3 [PoA Standard](#) ^{13/}, "*PoAs that will include one or more microscale projects as CPA shall include eligibility criteria derived from all the relevant requirements of the Guidelines for demonstrating additionality of microscale project activities and PoAs that will include one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A of Appendix B of the Simplified modalities and procedures for small-scale CDM project activities*".

Identification of alternatives to the PoA is therefore not applicable.

4.8.3 Barrier Analysis (For SSC CPA)

Barrier analysis has been chosen to demonstrate additionality of a typical SSC CPA according to [Attachment A to Appendix B](#) ^{5/20/} of UNFCCC's Simplified Modalities and Procedures for Small-scale CDM Project Activities since according to EB 65 Annex 3 [PoA Standard](#) ^{13/}, "*PoAs that will include one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A of Appendix B of the Simplified modalities and procedures for small-scale CDM project activities*".

Correctness and completeness of the barrier analysis, based on PoA-DD uploaded for GSC, was assessed and documented through the questionnaire (section E.5.1) included in Annex A. However, at request for registration EB 68 released the "Guidelines on the Demonstration of Additionality of Small Scale Project Activities" ^{149/} version 09 which prescribes that documentation of barriers is not required for the positive list of technologies and project activity types that are defined as automatically additional for project sizes up to and including the small-scale CDM thresholds (e.g. installed capacity up to 15 MW). Amongst the list are "*Project activities solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds.*" CPAs to be included in this PoA shall therefore be exempted from performing barrier analysis.

⁵ It is worth mentioning that as GLC was concluding the validation of this PoA Attachment A of Appendix B was changed during EB 68 to Guidelines on the Demonstration of Additionality of Small Scale Project Activities version 09..

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4.8.3.1 Investment Barrier Analysis

As indicated in section A.4.3 of PoA-DD, this PoA will face an investment barrier according to [Attachment A to Appendix B](#)^{/20/} of UNFCCC's Simplified Modalities and Procedures for Small-scale CDM Project Activities.

Considering that this PoA is targeting low - average income communities it would face a financial barrier because of the inability to recover costs from the stove distribution programme due to the low purchasing power of the targeted communities within the CPA host countries. According to the interview conducted on-site of the first CPA with PPs, the stoves are designed in USA by [Envirofit International Ltd.](#) They are then manufactured in China and shipped to the different countries where they are sold. Factoring the engineering cost and the on-going costs of manufacturing marketing, distribution and quality control into the selling price would make the ICS unaffordable to the target project population in the form of high stove prices. The CME in cooperation with the CPA implementers (DOs) is selling the stoves at highly subsidised prices in anticipation of additional income stream from the sales of CERs. This has been made possible by grant funding donated by [Shell Foundation](#)^{/23/} (through its Breathing Space Programme) to take care of the initial cost of designing the stoves and to register the PoA while stressing that *"The grant finance provided by Shell Foundation is suitable to establish a pilot manufacturing and dissemination activity in the initial years before carbon finance can become an adequate revenue source."*

It is worth mentioning that there has been a small degree of ICS penetration in some Africa countries, facilitated by grants and/or partnership with foreign donors. An example is [Energising Development Kenya: Efficient and Clean Cooking Energy \(EnDev\)](#)^{/31/} which is a German-Dutch Energy Partnership programme in Kenya. Also, according to [Subsidy Schemes for the Dissemination of Improved Stoves](#)^{/33/}, [Experiences of GTZ HERA and Energising Development \(2009\)](#) *"For a sustainable dissemination of improved cooking stoves a number of barriers have to be overcome which in one or the other way all deal with the problem of access and sustainability. While market oriented interventions typically stumble on market barriers to develop and introduce a new and affordable product in a weak market environment (especially in rural areas), non-commercial approaches struggle with a long-term viability of maintenance and replacement of free-given or self-produced stoves."*

It is therefore difficult for any investor to undertake such an initiative as ICS distribution, strictly on a business basis, in such low -average income communities. Therefore the barrier to investment as described in the PoA-DD is considered by GLC as appropriate based on expert and local knowledge.

Other similar barriers would be institutional barriers or limited information, lack of managerial resources and organizational capacity, lack of access to financial resources or institution. This was evident during in the first CPA which is implemented in Ghana. Many low-average income communities in Africa lack any kind of financial institution or access to micro-finance to enable the artisans to set up better ICS manufacturing. Due to lack of security households might be denied micro-finance that would have enabled them to purchase any available energy efficient ICS. As such the population uses the forest, indiscriminately, as the source of fuel without any consideration to the effects on the environment.

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However, if the CPA to be included under the PoA will be micro scale PPs will instead apply EB 63, Annex 23 "[Guidelines for demonstrating additionality of microscale project activities](#)" version 03^{/9/} and investment barrier analysis shall not be required.

Since this is an international PoA this will be validated by the contracting DOE 'CPA by CPA' during inclusion as per the requirements of the host country.

The first CPA under this PoA to be implemented in Ghana fulfills the micro-scale criteria. And as such EB 63, Annex 23 "[Guidelines for demonstrating additionality of microscale project activities](#)" version 03^{/9/} has been applied as required and presented in the CPA validation report upload together with this report.

4.8.3.2 Technological Barrier Analysis

As indicated in section A.4.3 of PoA-DD, this PoA will face a technological barrier, as per the definitions included in [Attachment A to Appendix B](#)^{/20/} of UNFCCC's Simplified Modalities and Procedures for Small-scale CDM Project Activities.

Although there has been a limited degree of cook stove penetration in some Africa countries, the technology behind the design and manufacturing is still not advanced and/or widespread. In Ghana for example with some ICS projects registered under the voluntary GS one could still find stoves on the market and in households that resembles ICS but which are not efficient in the real sense. The audit team also visited and interviewed some of the local artisans and retailers. It could be concluded that most of the stoves are hurriedly mounted and placed on the market and sold at low prices. No testing is done to confirm their efficiencies. Many of the end users interviewed also complained that those stoves last for just few months and must be replaced. According to [GTZ April 2008 report on Charcoal in Africa: Importance, Problems and Possible Solution Strategies](#)^{/21/} *"Most households use traditional stoves, which are cheap (from 1.5 to 2 US\$ up) and can be afforded even by poorer households. Examples are traditional stoves from Ghana, Kenya, Madagascar and Uganda. Usually they are made of metal without insulation, which allows most of the heat to escape. Although these stoves are slightly more efficient (10 – 25 %) than the three stone fire using wood, their use wastes a lot of charcoal... Traditional charcoal stoves are very common in African cities, used by up to 80 % of the households"*. On the other hand, the ICSs to be deployed in the CPAs under this PoA have been designed by [Envirofit International Ltd](#) in the USA, tested according to [Emission and Performance Test Protocol \(Biomass stove performance and development of an improved testing protocol\)](#) developed by Colorado State University and the stoves are manufactured in China. And according to a response to a question posed during the Local Stakeholder Consultation in Ghana^{/24/} concerning the potential to set up a manufacturing unit in Ghana and the source of raw material, [Nathan Lorenz of Envirofit International Ltd](#) response was *"Our goal is to source as much materials as possible locally. Maybe some materials/parts will still need to be imported e.g. the combustion chamber which contains a special alloy."* Without this PoA households would turn to cheaper and less technologically advanced alternatives which are more polluting. GLC can therefore confirm, based on sectoral knowledge and on interview conducted during the Ghana visit, that the technology barrier as explained by the PP in the PoA-DD is well found.

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However, if the CPA to be included under the PoA will be micro scale PPs will instead apply EB 63, Annex 23 "[Guidelines for demonstrating additionality of microscale project activities](#)" version 03^{/9/} and technological barrier analysis shall not be required.

It is worth mentioning that as GLC was concluding the validation of this PoA Attachment A of Appendix B saw its name changed during EB 68 to "Guidelines on the Demonstration of Additionality of Small Scale Project Activities"^{/49/} version 09. It prescribes that documentation of barriers, is not required for the positive list of technologies and project activity types that are defined as automatically additional for project sizes up to and including the small-scale CDM thresholds (e.g. installed capacity up to 15 MW). Amongst the list are "*Project activities solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds.*" CPAs to be included in this PoA shall therefore be eligible to apply this guideline as deemed necessary.

Since this is an international PoA this will be validated by the contracting DOE 'CPA by CPA' during inclusion as per the requirements of the host country.

The first CPA under this PoA to be implemented in Ghana fulfills the micro-scale criteria. And as such EB 63, Annex 23 "[Guidelines for demonstrating additionality of microscale project activities](#)" version 03^{/9/} has been applied as required and presented in the CPA validation report upload together with this report.

4.8.3.3 Barrier due to Prevailing or Common Practice Analysis

This PoA will face barrier due to prevailing practice according to [Attachment A to Appendix B](#)^{/20/} of UNFCCC's Simplified Modalities and Procedures for Small-scale CDM Project Activities.

The prevailing practice in the communities where the CPAs under this PoA shall be implemented is the use of inefficient stoves for cooking. This is according to [GTZ April 2008 report on Charcoal in Africa: Importance, Problems and Possible Solution Strategies](#)^{/21/} which states "*Most households use traditional stoves, which are cheap (from 1.5 to 2 US\$ up) and can be afforded even by poorer households. Examples are traditional stoves from Ghana, Kenya, Madagascar and Uganda. Usually they are made of metal without insulation, which allows most of the heat to escape. Although these stoves are slightly more efficient (10 – 25 %) than the three stone fire using wood, their use wastes a lot of charcoal... Traditional charcoal stoves are very common in African cities, used by up to 80 % of the households*". ICS programmes in many Africa countries have been promoted either with grants or facilitated by partnership with foreign donors. This is either due to lack of an advanced and affordable technology for the manufacture of efficient and durable stoves or to the low purchasing power of the target population. According to [Subsidy Schemes for the Dissemination of Improved Stoves](#)^{/33/}, [Experiences of GTZ HERA and Energising Development \(2006\)](#) "*For a sustainable dissemination of improved cooking stoves a number of barriers have to be overcome which in one or the other way all deal with the problem of access and sustainability. While market oriented interventions typically stumble on market barriers to develop and introduce a new and affordable product in a weak market environment (especially in rural areas), non-commercial approaches struggle with a long-term viability of maintenance and replacement of free-given or self-produced stoves.*" As is the case with the other ICS programmes, this PoA has been possible thanks to the grant funding donated by [Shell Foundation](#)^{/23/} (through its Breathing Space Programme) to take care of the initial cost of designing the stoves and to

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register the PoA while stressing that the grant "...is not a basis for viability or sustainability, as the grant offered cannot by itself address the very deeply-entrenched barriers to the envisage transformation of cooking practices in Africa."

Tradition and culture can also be a huge barrier as expressed in [Energy Enterprise Learning Platform - Ghana](#)^{/34/} "There is evidence of continued use of biomass energy (from charcoal or firewood) for cooking in most households in Ghana. One of the main reasons is the deep-seated cultural values of the nation with regards to cooking methodologies of maize and other cereal-based staple meals that require this source of fuel".

Without this PoA households would turn to the business-as-usual scenario which is more polluting, while waiting for any such grant-supported endeavours. GLC can therefore confirm, base on sectoral knowledge and on interviews during the Ghana visit, that the barrier due to prevailing practice as explained by the PP in the PoA-DD is well founded.

However, if the CPA to be included under the PoA will be micro scale PPs will instead apply EB 63, Annex 23 "[Guidelines for demonstrating additionality of microscale project activities](#)" version 03^{/9/} and barrier due to common practice analysis shall not be required.

It is worth mentioning that as GLC was concluding the validation of this PoA Attachment A of Appendix B saw its name changed during EB 68 to "Guidelines on the Demonstration of Additionality of Small Scale Project Activities" ^{/49/} version 09. It prescribes that documentation of barriers is not required for the positive list of technologies and project activity types that are defined as automatically additional for project sizes up to and including the small-scale CDM thresholds (e.g. installed capacity up to 15 MW). Amongst the list are "Project activities solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds." CPAs to be included in this PoA shall therefore be eligible to apply this guideline as deemed necessary.

Since this is an international PoA this will be validated by the contracting DOE 'CPA by CPA' during inclusion as per the requirements of the host country.

The first CPA under this PoA to be implemented in Ghana fulfills the micro-scale criteria. And as such EB 63, Annex 23 "[Guidelines for demonstrating additionality of microscale project activities](#)" version 03^{/9/} has been applied as required and presented in the CPA validation report upload together with this report.

4.8.4 Additionality of Microscale CPA

Additionality of a typical micro-scale CPA shall be demonstrated by applying EB 65 Annex 3 [PoA Standard](#) ^{/3/} which states "PoAs that will include one or more microscale projects as CPA shall include eligibility criteria derived from all the relevant requirements of the Guidelines for demonstrating additionality of microscale project activities".

The adopted EB 63, Annex 23 "[Guidelines for demonstrating additionality of microscale project activities](#)" (Version 03)^{/9/} is being applied to CPAs that aim to achieve energy savings at a scale of

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- no more than 20 gigawatt hours per year (equivalent to **60 GWh thermal per year**) and is
- located in a LDC/SID or special underdeveloped zone of the host country as identified by the Government before 28 May 2010
- or where each of the independent subsystems or measures in the CPA will achieve an estimated annual energy savings equal to or less than 600 megawatt hours (equivalent to **1.8 GWh thermal per year**). In this case the end users of the subsystems or measures should be households or communities or small and medium size enterprises (SMEs).

Correctness and completeness of the additonality demonstration for microscale CPAs was assessed and documented through the questionnaire (section E.5.1) included in Annex A.

Since this is an international PoA this will be validated by the contracting DOE 'CPA by CPA' during inclusion as per the requirements of the host country.

The first CPA under this PoA to be implemented in Ghana fulfills the micro-scale criteria. And as such EB 63, Annex 23 "[Guidelines for demonstrating additonality of microscale project activities](#)" version 03^{/9/} has been applied as required and presented in the CPA validation report uploaded together with this report.

4.9 Local and Global Stakeholder Consultations

4.9.1 Local Stakeholder Consultation

Since this is an international PoA Local Stakeholder Consultation (LSC) shall be conducted at CPA level and validated during inclusion. This is as indicated by PP in the final PoA-DD.

PP intends to conduct a country-wide LSC for the first CPA in each host country and subsequent CPAs in the same host country would refer to this. GLC finds the approach to be appropriate.

For the first CPA to be implemented in Ghana a Local Stakeholder Consultation^{/24/} was conducted on November 14, 2011 in Accra. In addition to the advert placed in the local Newspaper - [The Ghana News Agency](#), invitation letters were sent to individuals, government officials, NGOs, Artisans and to local organisations. Stakeholders were identified as those whose activities directly or indirectly impact the project, and those who were to be impacted by the project activities. The 18 page report^{/24/} includes a full list of participants and photos. A full length video of the LSC was also played to the audit team during the site visit. GLC can therefore confirm that the right means of inviting stakeholders' comment was used and that the relevant stakeholders attended the meeting. Details of the LSC held in Ghana are presented in the CPA validation report uploaded together with this report at request for registration.

4.9.2 Global Stakeholder Consultation

GLC also published the project documents on UNFCCC's website (<http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/L5NM3ZT1NP8125Z00TJ5E6XNLZ3MIV/vie>

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[w.html](#)) on 13/12/2011 and invited comments within the period from 2011-12-13 to 2012-01-11 from Parties, stakeholders and non-governmental organisations. No comments were received.

4.10 Environmental Impacts Analysis (EIA)

Since this is an international PoA Environmental Impacts Analysis will be conducted at CPA level and validated during inclusion. This is as indicated by PP in the final PoA-DD.

PP intends to conduct a country-wide EIA for the first CPA in each host country and subsequent CPAs in the same host country would refer to this. GLC finds the approach to be appropriate. However, PP shall follow each host country's EIA requirements.

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5 VALIDATION OPINION

Germanischer Lloyd Certification GmbH has performed a validation of **African Improved Cooking Stoves Programme of Activities**, with its first CPA in Ghana. The validation was performed on the basis of UNFCCC criteria and CPA host country criteria, as well as criteria given to provide consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided Germanischer Lloyd Certification GmbH with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project is therefore recommended by Germanischer Lloyd Certification GmbH for registration.

The project applies the methodology "[Energy efficiency measures in thermal applications of non-renewable biomass](#)" (AMS-II.G version 03^{2/}). The methodology has been correctly applied and the assumptions made for the selected baseline scenario are sound. By disseminating about **4 500** energy efficient ICS (a mix of [CH 2200](#), [CH 2300](#) and [CH 4400](#)) during the 10 year crediting period and thereby reducing the amount of Non-Renewable Biomass used in the project area in household for cooking, the first CPA in Ghana aims to reduce **154 770 tCO₂e** over the 10 year crediting period, leading to a calculated annual average of **15 477 tCO₂e** emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

It is sufficiently demonstrated that the project is not a likely baseline scenario and that emission reductions attributable to the project are additional to any that would occur in the absence of the project activity.

No relevant negative environmental impacts are expected from the implementation of the project activity. Global and Local Stakeholder Consultations were conducted.

In summary, it is GLC's opinion that the **African Improved Cooking Stoves Programme of Activities** with its first CPA in Ghana as described in the revised project design document (PoA-DD, version 3) meets all relevant UNFCCC requirements for the CDM and all relevant host Party criteria and correctly applies AMS-II.G version 03. Hence, GLC requests the registration of the **African Improved Cooking Stoves Programme of Activities** as a CDM Programme of Activity.

Hamburg, 2012-12-05

Germanischer Lloyd
Certification

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6 REFERENCES

The following table outlines the documentation reviewed during the validation:

Ref. No.	TITLE of DOCUMENT or EVIDENCE (Author, website link)	DATE (Issuance or signed / submission)
/1/	<p>PoA-DD: African Improved Cooking Stoves Programme of Activities version 1 CPA-DD: African Improved Cooking Stoves Programme of Activities – 0001(Ghana) ver 1 CPA-DD generic: African Improved Cooking Stoves Programme of Activities – ####(Country) ver 1 http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/TKUCI3AN3E122550AOL40YALO7IJWW/view.html</p> <p>PoA-DD: African Improved Cooking Stoves Programme of Activities version 3.2 CPA-DD: African Improved Cooking Stoves Programme of Activities – 0001(Ghana) ver 3.2 CPA-DD generic: African Improved Cooking Stoves Programme of Activities – ####(Country) ver 3.2</p>	<p>23/11/2012 24/11/2011</p> <p>27/11/2012</p>
/2/	AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass --- Version 3.0 http://cdm.unfccc.int/methodologies/DB/6U8JYO9XTLVZ8LJ7GUBSZP145BIDG2	EB60 valid from 29/04/2011
/3/	<p>EB 65 Annex 3 PoA Standard http://cdm.unfccc.int/Reference/Standards/meth/meth_stan04.pdf</p> <p>EB 70 Annex 5 PoA Standard version 02</p>	<p>EB 65, Annex 3 25 November 2011 23 November 2012</p>
/4/	<p>Clarification Regarding the Procedures for Registration of a PoA as a single CDM Project Activity and Issuance of CERs for a PoA, version 01. (EB 60, Annex 26) http://cdm.unfccc.int/Reference/Guidclarif/PoA/poa_guid06.pdf</p>	15 April 2011
/5/	Guidelines on Assessment of De-bundling for SSC Project Activities, version 03 (EB 54, Annex 13) http://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC_guid17.pdf	28 May 2010
/6/	Clean Development Mechanism Verification and Validation Manual (version 01.2) http://cdm.unfccc.int/UserManagement/FileStorage/18Y54N6CWUV2LOESXQP3RMBID9FHK	EB 55, 30 July 2010
/7/	General Guidelines for Sampling and Surveys for Small-Scale CDM Project Activities (EB50 annex 30) http://cdm.unfccc.int/EB/050/eb50_repan30.pdf	
/8/	<p>Sustainable Energy in Sub-Saharan Africa http://www.icsu.org/icsu-africa/publications/reports-and-reviews/icsu-roa-science-plan-on-sustainable-energy/Doc%20SP02.1 ICSU%20ROA%20Science%20Plan%20-%20Sustainable%20Energy.pdf</p>	July 2007
/9/	<p>EB 63, Annex 23 “Guidelines for demonstrating additionality of microscale project activities” (Version 03) http://cdm.unfccc.int/filestorage/W/V/I/WV13RN692YMCGLZT40QXBOUA8H5KFP/eb63_repan23.pdf?t=b2h8bHpzOWdqfDB2-ID2BV4EAnRMOqnccl20</p>	29 September 2011
/10/	<p>Envirofit Product Overview. http://www.envirofit.org/files/Envirofit%20Product%20Overview2012.pdf</p>	2012
/11/	<p>ER-African Improved Cooking Stoves PoA_CPA1 Ghana.xlsx ER-African Improved Cooking Stoves PoA_CPA1 Ghana_ver3.1.xls ER-African Improved Cooking Stoves PoA_CPA1 Ghana_ver3.2.xls</p>	<p>November 2011 August 2012 December 2012</p>
/12/	Distributing Organisation Responsibility Manual –Rev 2.0	January 2012

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/13/	Emission and Performance Test Protocol. http://cdm.unfccc.int/filestorage/I/Z/X/IZX36AE84V1K5NOYQBSU0TWRHD2FGL/Stove%20Emissions%20and%20Performance%20Test%20Protocol.pdf?t=eEh8bTV3bjInfDBthUeEzC89ZeTJQfoDvj0T	-
/14/	Trends in removals of wood products 1990-2005 http://rainforests.mongabay.com/deforestation/2000/Ghana.htm	-
/15/	Global Forest Resources Assessment 2010 Country Report, Ghana http://www.fao.org/docrep/013/al513E/al513e.pdf	2010
/16/	Guidelines for the demonstration and assessment of prior consideration of the CDM. http://cdm.unfccc.int/UserManagement/FileStorage/1QRAJGC0P2MWD48Z369INYOK7F5SET	EB 60 1 5 April 2011
/17/	FAO FRA 2010, global tables, table 6: Forest management and legal status 2010 http://www.fao.org/forestry/fra/fra2010/en/	2010
/18/	Figure 3A.5.1. IPCC 2006, Vol. 4, Table 4.9 http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html	2006
/19/	Clarification about the threshold of thermal energy savings in AMS-II.G http://cdm.unfccc.int/filestorage/A/M/AM_CLAR_VIIC5MTUJWR9PRPJL0EXOT3G2CKSFQ/Response%20SSC%20WG%20provided.pdf?t=MUN8bHp1ZXZufDCJ0PMMSENZ4xpkA-e10t1w	submitted 21/09/2008
/20/	Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities http://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC_guid05.pdf	EB 63, Annex 24 29 September 2011
/21/	GTZ Report on Charcoal in Africa: Importance, Problems and Possible Solution Strategies http://www.gtz.de/de/dokumente/gtz2008-en-charcoal-in-africa.pdf	April 2008
/22/	EB 63 Annex 2: 2011 Standard for demonstration of additionality of GHG emission reductions achieved by a Programme of Activities http://cdm.unfccc.int/UserManagement/FileStorage/53IL4CJH82EFWGVTPMOYANUSBX697R	29 September 2011
/23/	CONFIDENTIAL_Improved Cooking Stoves PoA in Africa_Confirmation Letter Shell.	16/11/2011
/24/	LSC_African Improved cooking stoves PoA_Report Ghana.pdf	14/11/2011
/25/	Study of the Social and Poverty Impacts of Energy Interventions on Rural Communities in Ghana. http://www.resourcesaver.com/file/toolmanager/FileO105C24F411.pdf	April 2004
/26/	FAO's Assessment of the status of the development of the standards for the Terrestrial Essential Climate Variables http://www.fao.org/qtos/doc/ECVs/T12/T12.pdf	25/05/2009
/27/	Procedure for registration of a programme of activities as a single project activity version 4.1 http://cdm.unfccc.int/Reference/Procedures/PoA_proc01.pdf	EB 55 Annex 38 August 02, 2010
/28/	Clarification on the determination of fNRB in AMS-II.G http://cdm.unfccc.int/filestorage/Q/J/D/QJD2ISRE8K6OCXTGBYZ1P0MW7NA5U9/Final%20response.pdf?t=RVl8bHpxdHphfDBJ87CW46_pvRT5R1o1ZFbm	submitted 27 Jun 2011
/289/	Clarification on energy efficiency requirements for project cookstoves under AMS-II.G	submitted 12 Dec 2011
/30/	Glossary of CDM terms version 05 http://cdm.unfccc.int/Reference/Guidclarif/glos_CDM.pdf	19/08/2009
/31/	National Action Programme to Combat Drought and Desertification Environmental Protection Agency Accra, Ghana http://www.unccd.int/actionprogrammes/africa/national/2002/ghana-eng.pdf	April 2002
/32/	Standard for Sampling and Surveys for CDM Projects Activities and PoAs version 2 http://cdm.unfccc.int/Reference/Standards/meth/meth_stan05.pdf	EB 65, Annex 2 25 November 2011
/33/	Subsidy schemes for the dissemination of improved stoves, Experiences of GTZ HERA and	Eschborn, 2009

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	Energising Development. http://www.gtz.de/de/dokumente/en-stove-subsidies-gaul-2009.pdf	
/34/	Energy Enterprise Learning Platform –Ghana http://energy.invisibleschoolhouse.net/mod/wiki/view.php?id=159&page=Ghana	-
/35/	Low Carbon Africa http://www.christianaid.org.uk/images/LowCarbonAfrica.pdf	November 2011
/36/	WHO-UNDP: Two billion people need modern energy services by 2015 to accelerate the achievement of the MDGs http://graphics8.nytimes.com/packages/pdf/opinion/Energy_Access_Report_Brief.pdf	2009
/37/	Low Carbon Africa-Ghana http://www.christianaid.org.uk/images/low-carbon-africa-Ghana.pdf	November 2011
/38/	-LoA Ghana -Confirmation email from Peter Dery of Ghana DNA	04/05/2012 07/05/2012
/39/	CDM Project Standard (version 01.0) http://cdm.unfccc.int/Reference/Standards/pp/pp_stan01.pdf	EB 65
/40/	CDM Project Cycle Procedure (version 01.0) http://cdm.unfccc.int/UserManagement/FileStorage/50V3N2XFTR48PDJKZECMLYQOU117SA	EB 65
/41/	Emission and Performance Report CH 2200 http://www.envirofit.org/images/products/pdf/ch2200/CH2200Cert.pdf	17/10/2011
/42/	MoC	24/05/2012
/43/	Information note: Default values of fNRB for LDCs and SIDs/15/ of annex 20 of CDM-SSC WG http://cdm.unfccc.int/Panels/ssc_wg/meetings/035/ssc_035_an20.pdf	35th Meeting Report
/44/	Emission and Performance Report CH 2300 http://www.envirofit.org/images/products/pdf/ch2300/CH2300Cert.pdf	01/06/2012
/45/	CEESD_Use of CH2200 stove_Feedback summary report.	-
/46/	Emission and Performance Report CH 4400 http://www.envirofit.org/images/products/pdf/ch4400/CH4400Cert.pdf	01/12/2010
/47/	UK LOA - African Improved Cooking Stoves Programme of Activities http://www.environment-agency.gov.uk/static/documents/Business/CDM_approved_projects.pdf	17/08/2012
/48/	Nigerian LOA - African Improved Cooking Stoves Programme of Activities	09/05/2012
/49/	EB 68 Guidelines on the Demonstration of Additionality of Small Scale Project Activities	20/07/2012
/50/	CONFIDENTIAL_ICSPoAA_Bill of Lading	January 2012
/51/	Training Manual for CPA Distribution Records	10/02/2012
/52/	Monitoring responsibilities for Envirofit Cookstove PoA "African Improved Cooking Stove Programme of Activities"	January 2012
/53/	Guidelines for sampling and surveys for CDM project activities and programme of activities (version 02.0) and Standard for sampling and surveys for CDM PAs and PoAs (version 03.0) http://cdm.unfccc.int/Reference/Standards/meth/meth_stan05.pdf	EB 69 Annex 5 EB 69 Annex 4
/54/	Sample of Distribution Record (sales receipt)	January 2012
/55/	CDM Glossary of Terms version 7.0	EB 70 Annex 07

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ANNEX A: VALIDATION QUESTIONNAIRE AND RESOLUTION OF CORRECTIVE ACTION AND CLARIFICATION REQUESTS (FINDINGS'S LIST)

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Table 1 Validation Questionnaire

CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS		SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CON.
A GENERAL DESCRIPTION OF PROGRAMME OF ACTIVITIES (PoA)					
A.1 Title of the Programme of Activities (PoA)					
A.1.1	Are title, current version number and the date of document completion given in section A.1 of the PoA-DD?	PoA-DD EB41 Annex 12	Yes, the title is "African Improved Cooking Stoves Programme of Activities" version 01 completed on 24/11/2011. The GSC version of PoA-DD, generic CPA-DD and specific CPA-DD can be found at http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/L5NM3ZT1NP8125Z00TJ5E6XNLZ3MIV/view.html	OK	OK
.4.2	Is the project title of the proposed CDM activity submitted to the UNFCCC for registration in every document correct?	PDDs, LoAs, MoC	Yes the title of the proposed CDM activity submitted to the UNFCCC for registration is in every document correct	OK	OK
A.2 PROGRAMME DESIGN DOCUMENT (PoA-DD) and DESCRIPTION of the PROGRAMME of ACTIVITY					
A.2.1	Has the PoA-DD been prepared in accordance with the latest template and guidance from the EB? <i>Please refer also to</i> http://cdm.unfccc.int/Reference/PDDs_Forms/PoA/index.html	EB 55 Annex 1, §55	YES! The latest PoA template has been used by PP in preparing the PoA-DD. This can be found at: http://cdm.unfccc.int/Reference/PDDs_Forms/PoA/index.html	OK	OK
A.2.2	Does the PoA-DD contain a clear description of the programme that provides the reader with a clear understanding of the precise nature of the policy/measure or stated goal that the PoA seeks to promote; and the technical aspects of its implementation?	EB 55 Annex 38, § 6	Yes! The purpose of this PoA is the dissemination of improved cooking stoves (ICS) in a number of countries in Sub-Saharan Africa (SSA). The Programme intends to promote stove categories that replace existing less efficient cooking stoves using woody-biomass (wood-fuel and/or charcoal). This would lead to a reduced consumption of NRB and therefore to a reduction in GHG emissions.	OK	OK
A.2.3	Has a sufficient description of general operating and	EB 55	Yes! The PoA shall be coordinated by Envirofit International Ltd as the coordinating	OK	OK

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CON.
implementing framework of the PoA been given?	Annex 38, § 6	and Managing Entity (CME). Envirofit International Ltd shall coordinate the activities of the various CPA implementers who shall be contracted by the CME. The CPA implementers or Distribution Organisations (DO) shall sell ICS on a commercial basis and shall also reserve the right to sub-contract other agents. These 3 rd party agents shall receive training from DOs as required, supported by CME.		
A.2.4 Has a confirmation been given that the proposed PoA is a voluntary action by the coordinating/managing entity?	EB 55 Annex 38, §6(d)	Yes! As stated in the PoA-DD in A.2 <i>"There are no laws/policies mandating the adoption and/or dissemination of ICS in any of the countries within the PoA boundary. Therefore, the proposed PoA is a voluntary action by the CME (Envirofit) and the participating DOs as CPA-developers."</i>	OK	OK
A.2.5 Will the PoA create other environmental or social benefits than GHG emission reductions?	EB 55 Annex 1, §§ 125 – 127	Yes! As stated in the PoA-DD and confirmed by GLC based on local knowledge <i>"The PoA will have multiple benefits of reducing global GHG emissions, reducing pressure on forests and woody biomass resources, reducing indoor air pollution associated with use of traditional stoves and freeing up income that can be used for other purposes by reducing the expenditures for households on fuel for cooking."</i>	OK	OK
A.3 Coordinating/managing entity and participants of PoA				
A.3.1 Are the PPs listed correctly in a tabular form in section A.3 of the CDM-PoA-DD?	EB41 Annex 12	Yes! The only PP Envirofit International Ltd approved by UK is listed correctly in PoA-DD section A.3. Envirofit International Ltd is also the CME and GLC contractual partner.	OK	OK
A.3.2 Is the listed information in the table consistent with the contact details provided in Annex I of the PoA-DD?	PoA-DD	Yes! However, Envirofit International Ltd is indicated in Annex 1 as entity incorporated in the US while in A.3 it is indicated as a PP approved by UK. This is fine since UK has ratified the Kyoto Protocol and can approve an entity out side UK	OK	OK
A.3.3 Has the participation of each PP been approved by at least one party involved, either in a letter of approval or in a separate letter? <i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation. Indicate whether this letter was provided to the validation team by the project participants or directly by the</i>	EB 55 Annex 38, §9; EB 55 Annex 1	LoAs shall be provided later since in accordance with the CDM modalities and procedures, at the time of making the PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration, the approval by the Party(ies) involved is required.	OPEN	OK

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CON.												
<i>DNA. Letters of approval shall be issued in accordance with the guidance provided by the CDM Executive Board (EB16, Annex 6)</i>	§44, 51, 52	At request for registration all parties have provided LoAs														
A.3.4 Are the approvals issued by organisations listed as DNAs on the UNFCCC CDM website?	EB 55 Annex 1 §47	<p>Yes</p> <p>In the course of the validation the Ghanaian DNA – Environmental Protection Agency (EPA) - has also issued a Letter of Approval^{/38/} on May 04, 2012 authorizing Envirofit International Ltd as the CME of the African Improved Cooking Stoves Programme of Activities in Ghana. This was confirmed by Mr. Peter Dery in a reply to our request for confirmation mail wrote "<i>I on behalf on the DNA issued the said LoA...consider it authentic.</i>"</p> <p>The Nigerian DNA –Special Climate Change Unit in the Nigerian Federal Ministry of the Environment- has also issued a Letter of Approval^{/48/} on May 09, 2012 authorizing Envirofit International Ltd as the CME of the African Improved Cooking Stoves Programme of Activities in Nigeria.</p> <p>Envirofit International Ltd has been approved by the UK DNA (Environment Agency) according to the Letter of Approval ^{/47/} issued on 2012-08-17 authorizing Envirofit International Ltd as the CME and as a project participant.</p>	OPEN	OK												
A.3.5 Does each of the written approval confirm the following information: <i>CME's coordination of the PoA can be authorized in the letters of approval from each Host Party or in a separate confirmation letter from each Host Party.</i>	EB 55 Annex 1 §45 (a-d), 46, EB 55 Annex 38 §10	<table><tr><th>Requirement</th><th>YES/NO/NA</th></tr><tr><td>The corresponding party is a Party to the Kyoto Protocol</td><td>YES</td></tr><tr><td>The participation is voluntary</td><td>YES</td></tr><tr><td>The project contributes to the sustainable development in the country (host country approval(s));</td><td>YES</td></tr><tr><td>The project participant's information is exactly the same as in the PoA-DD</td><td>YES</td></tr><tr><td>The PoA title referred in the approvals is consistent with the one in the POA-DD submitted for registration</td><td>YES</td></tr></table>	Requirement	YES/NO/NA	The corresponding party is a Party to the Kyoto Protocol	YES	The participation is voluntary	YES	The project contributes to the sustainable development in the country (host country approval(s));	YES	The project participant's information is exactly the same as in the PoA-DD	YES	The PoA title referred in the approvals is consistent with the one in the POA-DD submitted for registration	YES	OPEN	OK
Requirement	YES/NO/NA															
The corresponding party is a Party to the Kyoto Protocol	YES															
The participation is voluntary	YES															
The project contributes to the sustainable development in the country (host country approval(s));	YES															
The project participant's information is exactly the same as in the PoA-DD	YES															
The PoA title referred in the approvals is consistent with the one in the POA-DD submitted for registration	YES															

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION		ASSESSMENT	FINAL CON.
		The CME is authorized to coordinate and implement the PoA in each CPA Host Party (for host country LoAs)	YES		
		The approvals are unconditional w.r.t. the above points	YES		
		Comments: At request for registration all parties have provided LoAs			
A.3.6 Is it clearly stated in section A.3 of the PoA-DD that the coordinating or managing entity of the PoA is the entity which communicates with the Executive Board (EB)?	EB 55 Annex 38, §11	The only PP indicated in section A.3 of the PoA-DD at GSC is the CME Envirofit International Ltd as the entity which communicates with the board.		OK	OK
A.3.7 Has the MoC fulfilled the following points before submitting request for registration?	EB 55 Annex 38, §11 UNFCCC secretariat/CDM Team's request	Requirement	YES/NO/NA	OPEN	OK
		Title of the project and names of PPs and focal points should be fully consistent with those indicated in all other project documentation submitted at the request for registration stage (e.g., PDD, LOAs, etc.);	YES		
		CME of the PoA is either sole or joint focal point for each area of communication with the Board, and the limit of joint focal points for the programme shall be 5, or equal to the number of host Parties if greater than 5;	YES		
		No modifications to the template/form (e.g., modifying or deleting sections of the form) should be made;	YES		
		Each document (MOC statement including the Annex 1) should be clearly dated	YES		
		Focal point scopes should be clearly and correctly indicated (e.g., one focal point entity cannot be designated with 'sole' authority while another focal point entity is designated with 'joint' authority for the same scope);	YES		
		Contact details and specimen signatures of focal point	YES		

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION			ASSESSMENT	FINAL CON.
		<div>entities including those of project participants in Annex 1 should be correctly entered</div> <div>Only one telephone, fax, e-mail contact should be entered per authorized signatory. In cases where additional contact details are included, only the first indicated information will be taken into account and only the official business address of the proposed entity should be provided on the F-CDM-MOC form;</div> <div>The Statement of Agreement in Section 3 should be signed by one authorized signatory for each project participant;</div> <div>Signatures made available in Section 3 should correspond to those indicated in the related Annex 1 document;</div> <div>Focal point entities who are not designated as project participants should not sign Section 3</div> <div>Comments: The MoC was signed, in the course of the validation, by Nathan Lorenz (vice president, Engineering) and Ron Bills (CEO) of Envirofit International Ltd. Both are still employed by Envirofit as per the information obtained from PP and PDD developer.</div>	YES	YES	YES	
A.3.8 Is there any Party directly involved as project participant, and if yes, is that Party's contact details included in annex 1 of the PoA-DD and is the information provided internally consistent with section A.3 of the PoA-DD?	EB 55 Annex 1, § 52	No party has indicated any direct involvement in this PoA			OK	OK
A.3.9 Are the CPA owners also listed as project participants? If	Sectoral	According to EB 55 Annex 38 Procedure for registration of a programme of activities as a single project activity version 4.1 "The operators of individual CPAs are not			OK	OK

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NO is there any proof that CPA owners would waive any rights to CERs from the CPAs?	knowledge	<i>required to be project participants. CDM programme participation is only recorded at the PoA level.</i> PP has indicated in Eligibility Criteria No. 9 that there is a contractual agreement between the CPA implementers and the CME to ensure that the project will run uninterrupted and that CPA implementers are aware that their CPAs are part of a PoA and that they waive their rights to CER to the CME. The contract has been provided to the DOE.		
A.3.10 Is the information provided in Annex I consistent with the one given under section A.3 of PoA-DD?	PoA-DD	Yes. Envirofit International Ltd is the only PP indicated in A.3 and in Annex I	OK	OK
A.3.11 Is the information on GLC Contractual Partner as a project participant provided in Annex I?	EB50 Anx48 para7	Yes. Envirofit International Ltd is the only PP indicated in A.3 and in Annex I and is also GLC contractual partner	OK	OK

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A.4 Technical Description of the Programme of Activities (PoA)					
A.4.1 Location of the PoA					
A.4.1.1	Have all host countries been correctly listed in section A.4.1.1 of the PoA-DD?	EB 55 Annex 1, § 52	It is indicated in A.4.1.1 that „ <i>The Republic of Ghana (Ghana) and the Federal Republic of Nigeria (Nigeria)</i> “ are the host countries. And it is planned to expand this PoA to other countries in Sub-Saharan Africa. This means the Po A is an international PoA	OK	OK
A.4.1.2	Does the information on the location of the PoA allow for a clear identification of the boundary for the PoA in terms of the geographical area, within which all CPAs included in this PoA will be implemented? e.g., maps in English and /or GSP Coordinates given in decimal formats: (Latitude: dd.mmmm, Longitude: dd.mmmm)	EB 55 Annex 38, §6(b)	This PoA is an international PoA with CPAs to be implemented in many countries in Sub-sahara Africa. The project boundaries of its CPA will encompass the physical geographical area within the territory of the CPA host country where the stoves will be used. Being an international PoA GPS coordinates will be provided for each CPA location in the CPA-DD	OK	OK
A.4.1.3	Have all applicable national and/or sectoral policies and regulations of each host country within the boundary been considered and/or substantiated?	EB 55 Annex 38 §6(b)	According to local knowledge and from experience from validating several cookstoves projects in Africa (Mali, Ghana, and Madagascar) and a heat retention cooking project in South Africa, there are no laws/policies mandating the adoption and/or dissemination of ICS in any of the countries within the PoA boundary.	OK	OK
A.4.2 Description of a typical Small Scale CDM Programme Activity (CPA):					
A.4.2.1 Technology or Measures to be employed by the SSC-CPA:					
A.4.2.1.1	Has it been stated in a clear, accurate and complete manner which technology or measures are to be employed by a typical CPA?	EB 55 Annex 38 § 6 (f), EB 55 Annex 1 § 58	The CPAs under this PoA will be implemented using AMS. II.G, version 3 - Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass. This comprises appliances involving the efficiency improvements in the thermal applications of non-renewable biomass. In this PoA the technologies and measures include the introduction of improved cooking stoves produced by Envirofit International Ltd . However, it is stated in the PoA-DD that „ <i>the stoves that will be promoted will burn and replace either wood fuel or charcoal fuel</i> “.	PoA-CL1	OK

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		It is not well understood how the stoves will replace either wood fuel or charcoal fuel.		
A.4.2.1.2 Is this description in accordance with the real situation or, in case of Greenfield CPAs, is it most likely that the CPA will be implemented according to the description?	EB 55 Annex 1, §§63, 64	The first CPA under this PoA to be implemented in Ghana indicates that the expected starting date is 01/02/2012. This indicated starting date is the likely date of commissioning the CPA. This is after the start of validation (GSC on 13/12/2011) and is therefore reasonable	OK	OK
A.4.2.1.3 In case the CPA involves alteration of the existing installation or process, is a clear description available regarding the differences between the proposed CPA and the pre-project situation?	EB 55 Annex 1, §§63, 64	NA! This PoA does not involve any alteration of existing installation or process.	OK	OK
A.4.2.1.4 Does the CPA use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	Local Knowledge	The stoves to be implemented in the CPAs under this PoA are designed using state of the art technology. They are designed in the USA and manufactured in China. The stove would result in a significantly better performance than any commonly used method. The project will be implemented in communities where the majority of the population uses the traditional method of cooking which is predominantly three-stones with woody biomass or some low efficient kind of stoves. This has been going on for decades and there is no reason to believe that an advanced technology than ICS will be introduced in these communities in the near future.	OK	OK
A.4.2.1.5 <i>Does a typical CPA qualify as a small scale CDM project activity as defined in decision 4/CMP.1 annex 11?</i> <i>Check if the proposed CPAs qualify within the threshold of one or more of the three possible types of small scale project activities.</i>	EB 55 Annex 1, § 136 (a) and EB 47 Annex 32 § 3	Yes! The annual energy savings of each CPA shall not go beyond the limits of 180 GWh _{th} /year over the entire crediting period. This can be confirmed based on local knowledge and based on experience gained from validating similar projects. CPA limit has also been included as an Eligibility Criteria.	OK	OK
A.4.2.2 Eligibility Criteria for Inclusion of a SSC-CPA in the PoA:				
A.4.2.2.1 The geographical boundary of the CPA including	EB 65	This PoA is an international PoA with CPAs to be implemented in many countries in	OK	OK

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any time-induced boundary shall be consistent with the geographical boundary set in the PoA. Is this criteria included in the list of eligibility criteria?	Annex 3 § 14(a)	Sub-sahara Africa. The project boundaries of its CPA will encompass the physical geographical area within the territory of the CPA host country where the stoves will be used. The boundary shall be specified in the CPA-DD including GPS coordinates of the project location. Since this is an international PoA this shall be validated <i>CPA-by-CPA</i> by the validating DOE during inclusion. The definition of time-induced boundary does not apply to this PoA		
A.4.2.2.2 Have Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo), and avoid the case of including a new CPA that has been already registered either as CDM project activity or as a CPA of another PoA, as well as internal double counting within all CPAs of this PoA been described in the eligibility criteria for inclusion of a CPA under the PoA?	EB 65 Annex 3 § 14(b)	Conditions to avoid double-counting as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(b) PoA Standard has not been included in A.4.2.2 of PoA-DD	PoA-CAR1	OK
A.4.2.2.3 Have specifications of technology/measure including level and type of service, performance specifications including compliance with testing/certifications been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 65 Annex 3 § 14 (c)	Specifications of technology/measure including level and type of service, performance specifications including compliance with testing/certifications as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(c) PoA Standard has been included in A.4.2.2 of PoA-DD as Eligibility Criteria NO. 1&2. ICS to be deployed under the CPAs shall have a minimum efficiency of 20% according to AMS II.G and certified by a recognized body.	OK	OK
A.4.2.2.4 Have conditions to check the CPA start date through documentary evidence been described in the eligibility criteria for inclusion of a CPA under the PoA? <i>CPA start date not before PoA webhosting date</i>	EB 65 Annex 3 § 14(d), EB 55 Annex 38 §7(d)	CPA Start date as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(d) PoA Standard has been included in A.4.2.2 of PoA-DD as Eligibility Criteria NO. 5. Documentary evidence to prove that the CPA start date is actually after the PoA validation start shall be checked during CPA inclusion as required.	OK	OK

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		Technical specification and test certificate shall be provided. Since this is an international PoA this shall be validated <i>CPA-by-CPA</i> by the validating DOE during inclusion.		
A.4.2.2.5 Have conditions that ensure compliance with applicability and other requirements of single or multiple methodology/ies and tools applied by CPAs been described in the eligibility criteria for inclusion of a CPA under the PoA?	EB 65 Annex 3 § 14 (e) and EB 55 Annex 1 §167	Compliance with applicability and other requirements of single or multiple methodology/ies and tools applied by CPAs as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(e) PoA Standard has not been included in A.4.2.2 of PoA-DD	PoA-CAR1	OK
A.4.2.2.6 Have conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality been included in the eligibility criteria for inclusion of a CPA under the PoA? <i>Please refer to "Standard for demonstration of additionality of a PoA"</i>	EB 65 Annex 3 § 14(f)	Yes! The demonstration of additionality of every CPA to be included under the PoA as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(f) PoA Standard has been included in A.4.2.2 of PoA-DD as criterion No. 6 CPAs shall demonstrate additionality using micro-scale additionality guide or small scale additionality guide as per EB 65 Annex 3 PoA Standard ^{13/} which states <i>"PoAs that will include one or more microscale projects as CPA shall include eligibility criteria derived from all the relevant requirements of the Guidelines for demonstrating additionality of microscale project activities and PoAs that will include one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A of Appendix B of the Simplified modalities and procedures for small-scale CDM project activities"</i> . Since this is an international PoA additionality of CPAs shall be validated <i>CPA-by-CPA</i> by the validating DOE during inclusion.	OK	OK
A.4.2.2.7 Have Local Stakeholder Consultation prior to inclusion of the CPA been included in the eligibility	EB 65 Annex 3	Considering that this is an international PoA with CPAs to be implemented in several countries, Local stakeholder consultation prior to inclusion of the CPA as	PoA-CAR1	OK

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criteria for inclusion of a CPA under the PoA?	§ 14 (g)	one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(e) PoA Standard has not been included in A.4.2.2 of PoA-DD		
A.4.2.2.8 Have Environmental Impact Analysis requirement of the CPA been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 65 Annex 3 § 14 (g)	Considering that this is an international PoA with CPAs to be implemented in several countries, Environmental Impact Analysis requirement prior to inclusion of the CPA, as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(e) PoA Standard has not been included in A.4.2.2 of PoA-DD	PoA-CAR1	OK
A.4.2.2.9 Have Conditions to provide an affirmation that funding from Annex I parties, if any, do not result in a diversion of official development assistance been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 65 Annex 3 § 14(h)	Yes! Conditions to provide an affirmation that funding from Annex I parties, if any, do not result in a diversion of official development assistance, as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(f) PoA Standard has been included in A.4.2.2 of PoA-DD as criterion No. 11. PPs (CME/CPA implementers) shall provide a confirmation/delARATION or this may be included in the host party LoA. Since this is an international PoA additionality of CPAs shall be validated <i>CPA-by-CPA</i> by the validating DOE during inclusion.	OK	OK
A.4.2.2.10 If applicable, has a target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation) been defined in the eligibility criteria?	EB 65 Annex 3 § 14 (i)	Target groups such as households/communities/SMEs have been included under the additionality test. The ICS shall be distributed to households as per the contract between CME and DOs. Therefore target groups, as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(f) PoA Standard has been considered in A.4.2.2 of PoA-DD in criterion No. 6. Since this is an international PoA target group of CPAs shall be validated <i>CPA-by-CPA</i> by the validating DOE during inclusion and this shall be determined by the kind of ICS deployed in the CPA.	OK	OK
A.4.2.2.11 If applicable, have the conditions related to sampling requirements for a PoA in accordance with the approved guidelines /standard from the Board pertaining to sampling and surveys been included in the eligibility criteria for inclusion of a CPA	EB 65 Annex 3 § 14(j), EB65 Annex 2	Conditions related to sampling requirements for a PoA in accordance with the approved guidelines /standard from the Board pertaining to sampling and surveys, as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(f) PoA Standard has been included in A.4.2.2 of PoA-DD in criterion No. 10. The sampling shall be in accordance with AMS-II.G and any latest applicable	OK	OK

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under the PoA?		sampling standards. Since this is an international PoA sampling approach of CPAs shall be validated <i>CPA-by-CPA</i> by the validating DOE during inclusion		
A.4.2.2.12 If applicable, have the conditions that ensure that CPA in aggregate meets the small-scale or micro-scale threshold criteria and remain within those thresholds throughout the crediting period of the CPA?	EB 65 Annex 3 § 14(k)	Conditions that ensure that CPA in aggregate meets the small-scale or micro-scale threshold limit and remain within those thresholds throughout the crediting period of the CPA, as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(f) PoA Standard has been included in A.4.2.2 of PoA-DD in criterion No. 7 and also in criterion 6. The maximum number of ICS that shall ensure that the SSC limit is maintained through out the crediting period shall be indicated in the CPA-DD. If actual monitoring shall indicate an emission calculation above the applicable threshold, the emission shall be capped to the maximum indicated in the CPA-DD. This is according to § 83 of EB65, Annex 5 (Project Standard) which states " <i>If during its implementation and monitoring the project activity goes beyond the limit of its type in any year of the crediting period, the GHG emission reductions that can be claimed during this particular year shall be capped at the maximum GHG emission reductions estimated in the registered PDD for that year during the crediting period.</i> " Since this is an international PoA SSC or microscale limit of CPAs shall be validated <i>CPA-by-CPA</i> by the validating DOE during inclusion.	OK	OK
A.4.2.2.13 If applicable, have De-bundling criterion for the CPA been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 65 Annex 3 § 14(l)	De-bundling criterion for the CPA, as one of the minimum Eligibility Criteria according to EB 65 Annex 3 § 14(f) PoA Standard has been included in A.4.2.2 of PoA-DD in criterion No. 8. CPAs of PoA are exempted from performing de-bundling check, i.e. considered as being not a de-bundled component of a large scale activity since according to the energy saving calculations, energy savings per ICS is about 10 MWh/year, which far below the 1.8 GWhth/year threshold. Each CPA is therefore exempted from performing de-bundling test as per EB 54, Annex 13, par. 10	OK	OK
A.4.2.2.14 Have provisions to ensure that those operating	EB 55	Provisions to ensure that those operating the CPA are aware and have agreed that	OK	OK

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the CPA are aware and have agreed that their activity is being subscribed to the PoA been included in the eligibility criteria for inclusion of a CPA under the PoA?	Annex 38 §6(n),	their activity is being subscribed to the PoA, as one of the minimum Eligibility Criteria according to EB 55 Annex 38 Section C: Preparation of a Programme of Activities has been included in A.4.2.2 of PoA-DD in criterion No. 9. There is a contractual agreement between the CPA implementers and the CME to ensure that the project will run uninterrupted and that CPA implementers are aware that their CPAs are part of a PoA and that they waive their rights to CER to the CME.		
A.4.2.2.15 Have the provisions to ensure that the CPA crediting period does not exceed the PoA end date been included in the eligibility criteria for inclusion of a CPA under the PoA?	EB 55 Annex 38, §7(c)	Provisions to ensure that the CPA crediting period does not exceed the PoA end date, as one of the minimum Eligibility Criteria according to EB 65 Annex 3 § 14(f) PoA Standard has not been included in A.4.2.2 of PoA-DD	PoA-CAR1	OK
A.4.2.2.16 Calculation/determination of ex-ante country/CPA specific parameters as per the applied methodology	AMS II.G	In addressing the issues raised during I&RC PP has included the calculation/determination of ex-ante country/CPA specific parameters as an Eligibility Criteria No. 17 for CPA inclusion. This shall include the calculation of the following parameters: a) f_{NRB} : as per the approach outlined in detail in Annex 3 of PoA-DD or using default values where available/approved by the host country DNA; b) B_{old} : as per the approach outlined in Section E.6.2 of PoA-DD, applying Option (a) of paragraph 7 of AMS-II.G v.3, using either historical data or a survey of local usage; c) n_{old} : as per the approach outlined in section E.6.2 of PoA-DD, applying Option 2 of paragraph 6 of AMS-II.G v.3, using either national statistics, literature values or through representative sampling. This is considered as appropriate	OK	OK
A.4.2.2.17 Are the eligibility criteria specified in the PoA-DD sufficient, objective and comprehensive to ensure that all CPAs would comply with the CDM	EB 55 Annex 1 § 167 EB63	See PoA-CAR1	PoA-CAR1	OK

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requirements applicable to the PoA? <i>If more requirements are necessary to be included in the eligibility criteria but not covered by the abovementioned questions, please describe.</i>	Annex 3 §8			
A.4.2.2.18 Are all listed eligibility criteria verifiable?	EB 63 Annex 3 § 7	See CAR1	See PoA- CAR1	OK

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A.4.3 Assessment and Demonstration of Additionality:					
A.4.3.1	Has it formally been stated that the proposed PoA is a voluntary coordinated action?	EB 55 Annex 38 § 4	Yes, it has been stated in A.4.3 of PoA-DD that " <i>The proposed PoA is a voluntary coordinated action</i> "	OK	OK
A.4.3.2	Has it been demonstrated that in the absence of the CDM the proposed voluntary measure would not be implemented? How?	EB 55 Annex 38 §6(e)(i) EB 65 Annex 3 §7	Yes PP has used the following barriers, according to Attachment A to Appendix B , to demonstrate that if the PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the PoA : 1. Barrier due to prevailing practice 2. Investment barrier 3. Technological barrier Based on local knowledge and experience in validating similar projects, these are the two most serious barriers that hinder the implementation of such projects.	OK	OK
A.4.3.3	Is the PoA assisting in the implementation of a mandatory policy or regulation that would not have been enforced otherwise and that non-compliance with those requirements is widespread in the country/region?	EB 55 Annex 38 §6(e)(ii)	NA Based on local knowledge and based on interview conducted on site the PoA is not implementing a mandatory policy/regulation	OK	OK
A.4.3.4	Has it been demonstrated that the PoA would lead to greater level of enforcement of the mandatory policy or regulation?	EB 55 Annex 38 §6(e)(iii)	NA Based on local knowledge the PoA is not implementing a mandatory policy/regulation	OK	OK
A.4.3.5	In case additionality is demonstrated at PoA level, has it been sufficiently justified considering all applicable EB standards, guidelines and procedures?	EB 47 § 73, EB 65 Annex 3 §7	Given that CPAs under this PoA shall be implemented in many countries, additionality shall be considered at the CPA level as one of the Eligibility Criteria. According to EB 65 Annex 3 PoA Standard : ➤ PoAs that consist of one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A to Appendix B of the simplified modalities and procedures for	OK	OK

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		<p>small-scale CDM project activities.</p> <p>➤ PoAs that consist of one or more microscale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of EB 63, Annex 23 "Guidelines for demonstrating additionality of microscale project activities"</p>		
A.4.4 Operational, management and monitoring plan of the PoA:				
A.4.4.1 Operation and Management Plan				
A.4.4.1.1 Has the CME established operational and management arrangements for the implementation of the PoA?	EB 55 Annex 38 § 6(i), EB65 Annex 3 §17	<p>Yes the CME has designed an operational and management arrangements as described in the PoA-DD according to the requirements of Validation and Verification Manual, paragraph 166, which is "<i>sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme</i>".</p> <p>This includes a Training Manual for Completing Sales Records and Training Manual for CPA Distribution Records amongst other arrangements such as the PoA database.</p>	OK	OK
A.4.4.1.2 Are the arrangements sufficient to ensure that the CME will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme?	EB 55 Annex 38 § 6(i), EB 55 Annex 1 § 166 and EB65 Annex 3	<p>Yes, the arrangements as described in the PoA-DD is "<i>sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme</i>" according to Validation and Verification Manual, paragraph 166,</p>	OK	OK

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		17(e)			
A.4.4.1.3	Are procedures identified for data management (incl. data collection, data transfer and data archive until 2 years after the end of crediting period of each CPA, etc.)?	EB 55 Annex 1 123 (b)	Yes, the DOs shall collect data (CPA distribution record) on the ICS distributed and forward them to the CME on a regular basis. The DOs shall also send the CPA monitoring report to the CME. The CME will in turn store the data in a database after cross-checking.	OK	OK
A.4.4.1.4	Has a clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies made available to the DOE at time of validation of the PoA?	EB 65 Annex 3 § 17(a)	Yes, roles are clearly and unambiguously defined in A.4.41 of PoA-DD and the CME will provide training to the DOs regarding PoA, data collection and monitoring of CPA. "Distributing Organisation Responsibility Manual –Rev 2.0" was presented during the site visit detailing roles, responsibilities, incentive plans and supply chain	OK	OK
A.4.4.1.5	Have records of arrangements for training and capacity development for personnel made available to the DOE at time of validation?	EB 65 Annex 3 § 17(b)	The CME will provide training to the DOs regarding PoA, data collection and monitoring of CPA. The DOs shall further provide training to any 3 rd party agent they shall contract. CME are requested to clarify how it shall be determined whether any 3 rd party agent actually received training and whether they are aware that their activities are being included under a PoA	CL2	OK
A.4.4.1.6	Have procedures for technical review of inclusion of CPAs made available to the DOE at time of validation of PoA	EB 65 Annex 3 § 17(c)	The CME shall review any CPA against the Eligibility Criteria before inclusion in the PoA and this shall be validated by the contracting DOE during inclusion	OK	OK
A.4.4.1.7	Is there a system or procedure to avoid double accounting, i.e. to avoid that a CPA included under this PoA is a registered CDM project or CPA in another PoA? Does the monitoring plan for the PoA avoid internal double accounting of emission reduction?	EB 65 Annex 3 § 17(d)	Yes! To avoid double counting and also to enable tracking of the ICS for monitoring purposes, each DO shall collect the necessary from the customer and record it in the CPA Distribution Record that shall be sent to the CME. This data will include: 1. CPA ID number 2. Name/Identification of ICS end user 3. Fixed address/location of ICS end user, or GPS coordinates.	OK	OK

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		4. Stove unique serial ID number 5. Category of stove being replaced, including fuel type – wood or charcoal. 6. Stove distribution date During the site visit, sample stoves were seen with 'durable' serial numbers. The end user waiver form, which shall be used for tracking the stoves, was also presented		
A.4.4.1.8 Have measures for continual improvement of PoA management made available to DOE at time of validation of PoA?	EB 65 Annex 3 § 17(f)	Yes. Incentive structures will be put in place by the CME and the DO as part of the operation and management plan to ensure the accuracy of the data to be compiled in a CPA Distribution Report. The CME will also oversee ex-post monitoring activities by providing guidance and training to the parties involved. Depending on the specific circumstances in each CPA, this role could be fulfilled by the same organisation as the DO or another organisation, the so-called "Monitoring Organisation". The „CME - Monitoring Organisations – DO" relationship is not yet clearly described in the PoA-DD considering that the monitoring arrangement should be "sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme" according to Validation and Verification Manual , paragraph 166	CL3	OK
A.4.4.1.9 Does the management plan have a procedure to detect de-bundling i.e. that a SSC-CPA to be included in the PoA is not a de-bundled component of another CPA or CDM project?	EB 55 Annex 38 § 6(i), EB 54 Annex 13	CPAs of PoA are exempted from performing de-bundling check, i.e. considered as being not a de-bundled component of a large scale activity since according to the energy saving calculations, energy savings per ICS is about 10 MWh/year, which far below the 1.8 GWhth/year threshold. Each CPA is therefore exempted from performing de-bundling test as per EB 54, Annex 13, par. 10	OK	OK

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A.4.4.2 PoA Monitoring Plan				
<p>A.4.4.2.1 If the CME does not wish to have all CPAs verified, has a description of the proposed statistically sound sampling method/procedure to be used by DOEs for verification of the CPA GHG emission reductions been provided?</p> <p><i>Please refer to latest EB guidance on sampling.</i> <i>The request for issuance of a PoA shall relate to all CPAs included in the PoA during the specified monitoring period.</i> The monitoring periods shall be consecutive. A request for issuance shall relate to the certified emission reductions verified as per above. (EB55 Annex 38 §37)</p>	EB 55 Annex 38, §6(k)	<p>The CME will develop a PoA Sampling Plan in line with the requirements of AMS II. G. v03, General Guidelines for Sampling and Surveys for Small-Scale CDM Project Activities and any still-to-be approved PoA-specific sampling / survey standard</p> <p>The CME has not yet developed the PoA Sampling Plan according to Standard for Sampling and Surveys for CDM Projects Activities and PoAs version 2.0 and include this in the PoA-DD.</p>	PoA-CAR2	OK
<p>A.4.4.2.2 Does the monitoring plan for the PoA avoid double accounting in case the CME would opt for a verification method that does not use sampling but verifies each CPA; and that the status of verification for each CPA can be determined any time?</p>	EB 33 Annex 43	<p>Yes!</p> <p>To avoid double counting and also to enable tracking of the ICS for monitoring purposes, each DO shall collect the necessary from the customer and record it in the CPA Distribution Record that shall be sent to the CME. This data will include:</p> <ol style="list-style-type: none"> 1. CPA ID number 2. Name/Identification of ICS end user 3. Fixed address/location of ICS end user, or GPS coordinates. 4. Stove unique serial ID number 5. Category of stove being replaced, including fuel type – wood or charcoal. 6. Stove distribution date <p>During the site visit, sample stoves were seen with 'durable' serial numbers. The end user waiver form, which shall be used for tracking the stoves, was also presented</p>	OK	OK

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A.4.5 Public Funding of the PoA					
A.4.5.1	Is there any public funding used for implementation of this PoA?	EB 41, Annex 12,	The CME has not stated categorically whether there is any public funding of this PoA. The source of funds for the PoA and its CPA should be mentioned in the PoA-DD. The CME has, however, included Official Development Assistance (ODA) check as an Eligibility Criteria No. 11. The CPA to be included under this PoA shall either: a) not receive any funding from Annex I parties; or b) the Annex I party funds shall not result in a diversion of ODA.	PoA-CAR3	OK
A.4.5.2	If public funding is granted was a written confirmation from the relevant Annex I country DNA provided with the content that such funding does not result in a diversion of official development assistance (ODA)?	EB 55 Annex 38, §6(n))	See CAR3	PoA-CAR3	OK
A.4.5.3	Has it been confirmed whether there are any bilateral or multilateral fund project participants involved in the PoA, and if yes, the following information shall be provided to the DOE: <ul style="list-style-type: none">• Full official name of the entity fund;• Name of company managing the fund;• Party(ies) authorizing participation of the Fund;• DNA approval of voluntary participation in the PoA and confirmation that it has ratified the Kyoto Protocol;	EB 55 Annex 1, § 100 (b)	See CAR3	See PoA-CAR3	OK

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<ul style="list-style-type: none"> DNA authorization of the fund to the project participant (can be combined with the approval document) <p><i>Multilateral funds do not necessarily require written approval from each participant's DNA. However those not providing a written approval may be giving up some of their rights and privileges in terms of being a Party involved in the project. (Glossary of CDM terms (version 5))</i></p>				
A.4.5.4 Is any further information provided in PoA-DD annex 2 on public funding used for the PoA? If any, is this consistent with the actual situation presented by the project participants?	EB 41, Annex 12,	See CAR3	See PoA-CAR3	OK
B DURATION of the PROGRAMME of ACTIVITIES				
B.1 Starting Date of the Programme of Activities				
B.1.1 Has the start date of the PoA been indicated using the dd/mm/yyyy?	PoA-DD	Yes, the PoA start date has been indicated as 01/07/2012 (PoA-DD for GSC). However, the starting date of the first CPA, to be implemented in Ghana, has been indicated as 01/02/2012 (expected starting date of the CPA). The CPA start date is therefore prior to the PoA start date and according to EB 60, Annex 26 April 15, 2011 the Board agreed that as at present it is expected that no component of the programme will commence prior to the start date of validation.	PoA-CAR4	OK
B.1.2 Is this start date reasonably defined? <i>The crediting period of the PoA should be renewed every seven years (every 20 years for A/R PoA) from the start date of the lifetime of the PoA. Life time of the PoA starts on the date specified in the PoADD section B.1 or on the date of registration, whichever is later. In case of small-scale PoA, the start date must be stated as at least 4 weeks after the estimated submission date; In case of large-scale PoA, the start date must be stated as at least 8 weeks after the estimated submission date.</i>	CDM glossary of terms	Yes. This indicated starting date is the likely date of commissioning of the first CPA or the date of inclusion of the first CPA, whichever is the latter. This is after the start of validation (GSC on 24/11/2011) and is therefore reasonable. However, see CAR4	See PoA-CAR4	OK

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B.2 Length of the Programme of Activities				
B.2.1 Is the indicated duration of the PoA by the coordinating and managing entity? <i>PoA duration should not exceeding 28 years (60 years for A/R)</i>	EB 55 Annex 38, §6(h) and 7(d))	Yes. The length of the PoA has been indicated as 28 years	OK	OK
C ENVIRONMENTAL IMPACT ANALYSIS (EIA)				
C.1 Definition of the Level EIA as per Requirements of CDM Modalities and Procedures				
C.1.1 Has the level of environmental analysis been defined (at PoA or CPA level)?	EB 55 Annex 38 § 6(l)	The CME has indicated that EIA shall be conducted at PoA level. However, considering that CPAs under this PoA shall be implemented in different countries with different regulations and/laws on the environment, more explanation is required why EIA shall not be conducted at CPA level	PoA-CL4	OK
C.1.2 Has any justification been provided for the choice of the level of environmental analysis?	EB 55 Annex 38 § 6(l)	Justifications have been provided for conducting EIA at PoA level. However, see CL4	See PoA-CL4	OK
C.2 Documentation on the EIA including transboundary impacts				
C.2.1 Has any documentation of environmental impact analysis of the PoA as per requirements of the CDM modalities and procedures been described in the PoA-DD?	EB 55 Annex 38, §6(l)	Yes, the PoA will result in reduced GHG emissions, a better air quality especially for women and children, and biodiversity. However, considering that this is an international PoA with CPAs to be implemented in several countries, Environmental Impact Analysis requirement prior to inclusion of the CPA, as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(e) PoA Standard has not been included in A.4.2.2 of PoA-DD See CAR1f	See PoA-CAR1	OK
C.2.2 Were transboundary environmental impacts identified in the environmental analysis and addressed?	EB 55 Annex 1, §§ 131 – 133	Considering that this is an international PoA with CPAs to be implemented in several countries, Environmental Impact Analysis requirement prior to inclusion of the CPA, as one of the minimum eligibility Criteria according to EB 65 Annex 3 § 14(e) PoA Standard has not been included in A.4.2.2 of PoA-DD.	OK	OK

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		No transboundary impact shall be considered since in A.4.1.2 PP has stated that <i>"Each CPA will be limited by the territorial boundary of the host country in which it is located, and the physical location of the stoves distributed in that CPA will form the actual CPA boundary"</i>		
C.3 EIA required by Host Country				
C.3.1 If there are any Host Party requirements for an Environmental Impact Assessment (EIA) at the PoA level, are there proofs that the EIA was done according to these laws?	EB 55 Annex 1, § 136 (d)	This is not applicable since the PoA is international with CPAs to be implemented in different countries. This shall be validated at the CPA level during inclusion and per the host country requirement.	OK	OK
C.3.2 If there are any Host Party requirements for an Environmental Impact Assessment (EIA) at the PoA level, has the outcome of such impact assessment been summarized and a description of the planned monitoring and remedial measures to address the negative impacts been included in section C of the PoA-DD?	EB 55 Annex 1, § 162	This is not applicable since the PoA is international with CPAs to be implemented in different countries. This shall be validated at the CPA level during inclusion and per the host country requirement.	OK	OK
C.3.3 If an EIA is necessary for a typical CPA according to the host country laws, has it been indicated in section C.3 of the PoA-DD?		This is not applicable since the PoA is international with CPAs to be implemented in different countries. This shall be validated at the CPA level during inclusion and per the host country requirement.	OK	OK
D LOCAL STAKEHOLDERS' CONSULTATION AND COMMENTS				
D.1 Level of Local Stakeholder Consultation				
D.1.1 Is it indicated whether the Local Stakeholder Comments will be invited at PoA or CPA level?	EB 55 Annex 1, §§ 127–129)	PP has stated in D.1 of PoA-DD that <i>"Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA."</i> However, the check box does not reflect this. It should also be clarified why the Stakeholder meeting held in Ghana has been	PoA-CAR4 PoA-CL5	OK

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		presented in the PoA-DD for a PoA whose CPAs shall be implemented in many countries.		
D.1.2 Has any justification been provided for the choice of the level of Local Stakeholder Comments being invited?	EB 55 Annex 38 § 6(m))	Yes. PP has stated in D.1 of PoA-DD that " <i>Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA.</i> "	OK	OK

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D.1.3 If the stakeholder comments will be invited at PoA level, has it been indicated how local stakeholders' comments were invited?	VVM § 128-130	Not Applicable since PP has opted to conduct Local Stakeholder Consultation at the CPA level.	OK	OK
D.1.4 If the stakeholder comments will be invited at PoA level, has any summary of the contents been provided?	VVM § 128-130	Not Applicable since PP has opted to conduct Local Stakeholder Consultation at the CPA level.	OK	OK
D.1.5 If the stakeholder comments will be invited at PoA level, has it been indicated how due account was taken of any comments received?	VVM § 128-130	Not Applicable since PP has opted to conduct Local Stakeholder Consultation at the CPA level.	OK	OK
D.1.6 Is the list of relevant stakeholders consulted been provided; and does the list include all the relevant stakeholders?	VVM § 128-130	Not Applicable since PP has opted to conduct Local Stakeholder Consultation at the CPA level.	OK	OK
D.1.7 Were appropriate media used to invite comments from local stakeholders?	VVM § 128-130	Not Applicable since PP has opted to conduct Local Stakeholder Consultation at the CPA level.	OK	OK
D.1.8 Does the PoA-DD document the stakeholder process that was conducted in a complete and transparent manner?	VVM § 128-130	Not Applicable since PP has opted to conduct Local Stakeholder Consultation at the CPA level.	OK	OK
D.1.9 If applicable was the stakeholder consultation process conducted in accordance with host country regulations/laws?	EB55 Annex38 § 6(m) & 7(g) EB55 Annex1 § 128	PP has stated in D.1 of PoA-DD that <i>"Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA."</i> This will be validated at CPA during inclusion by the contracted DOE However, see CAR4	See PoA-CAR4	OK
D.1.10 Has due account been taken of any stakeholder comments received?		NA LSC to be undertaken at CPA level	OK	OK

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D.2 Description how Comments have been invited				
D.2.1 If the stakeholder comments will be invited at PoA level, has it been indicated how local stakeholders' comments were invited prior to the publication of the PoA-DD?	EB 55 Annex 38, §6(m); EB 55 Annex 1, §§128–130)	Not applicable since PP has stated in D.1 of PoA-DD that " <i>Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA.</i> "	OK	OK
D.2.2 Can the local stakeholder consultation process be deemed as adequate?	EB 55 Annex 1, §130)	Not applicable since PP has stated in D.1 of PoA-DD that " <i>Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA.</i> "	OK	OK
D.3 Summary of Comments				
D.3.1 If the stakeholder comments will be invited at PoA level, has any summary of the contents been sufficiently provided?	EB 55 Annex 1, §§ 128–130)	Not applicable since PP has stated in D.1 of PoA-DD that " <i>Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA.</i> "	OK	OK
D.4 Report on how due Account was taken of any Comments received				
D.4.1 If the stakeholder comments will be invited at PoA level, has it been indicated how due account was taken of any comments received?	EB 55 Annex 1, §§ 128–130)	Not applicable since PP has stated in D.1 of PoA-DD that " <i>Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA.</i> "	OK	OK

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E APPLICATION OF A BASELINE AND MONITORING METHODOLOGY TO A TYPICAL CPA											
E.1 Title and Reference of the Approved Baseline and Monitoring Methodology applied to SSC-CPA included in the PoA											
E.1.1	Does the PoA-DD correctly quote the methodology(ies)? Is a valid version of the methodology(ies) applied? Has a reference been indicated in the PoA-DD?	EB 55 Annex 1 § 70, 71	Yes as “AMS-II.G, version 3: Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass” in E.1 of the PoA-DD		OK	OK					
E.1.2	Has the methodology or the combination of multiple methodologies applied been approved by the EB for use of a PoA?	EB 47 Annex 31 EB 61 Annex 21 § 11a)	Yes AMS-II.G, version 3 is applicable for PoA as indicated in Para. 23 of the methodology. Multiple methodologies are not used in this PoA.		OK	OK					
E.1.3	Is the applied methodology considered the most appropriate for the PoA?		Yes, AMS II.G - <i>Energy Efficiency measures in Thermal Application of Non-Renewable biomass</i> is the most appropriate small scale methodology for these kind of projects involving the replacement of less efficient cooking system with better energy efficient cooking stoves. It is also indicate in para. 23 that is applicable to PoA under the conditions stipulated.		OK	OK					
E.1.4	Does the PoA-DD correctly quote the tools/guidelines referred in the methodology(ies)? Is the list of tools/guidelines complete? Are the valid versions of the tool(s) /guidelines applied? Has a reference been indicated in the PoA-DD?	EB 55 Annex 1 § 68	NA No Tool is used in the PoA or in the CPAs		OK	OK					
E.2 Justification of the Choice of the Methodology and why it is Applicable to a CPA											
Please list all Applicability Criteria of the approved methodology or any other tool or other methodology component referred to therein.											
E.2.1	Criterion 1: This category comprises small appliances involving the efficiency improvements in the thermal applications of non-renewable biomass. Examples of	AMS II.G	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>Yes</td></tr></table>			Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	Yes	OK	OK
Applicability checklist	YES / NO / NA										
Criterion discussed in the PoA-DD?	Yes										

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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.			<table><tr><td>Compliance verified and validated?</td><td>Yes</td></tr></table> Comments: The project involves the replacement of less efficient cooking system with better energy efficient biomass-fired cooking stoves. Stoves to be deployed in the CPAs under this PoA shall be required to provide a Technical Specification showing a minimum stove efficiency of 20%.		Compliance verified and validated?	Yes						
Compliance verified and validated?	Yes											
E.2.2	Criterion 2: 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.	AMS II.G	<table><tr><td>Applicability checklist</td><td>YES / NO / NA</td></tr><tr><td>Criterion discussed in the PoA-DD?</td><td>Yes</td></tr><tr><td>Compliance verified and validated?</td><td>Yes</td></tr></table> Comment: For the first CPA in each of the host countries PP shall provide evidence 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. Since this is an international PoA the criterion shall be validated at CPA level during inclusion as indicated in the Eligibility criteria.		Applicability checklist	YES / NO / NA	Criterion discussed in the PoA-DD?	Yes	Compliance verified and validated?	Yes	OK	OK
Applicability checklist	YES / NO / NA											
Criterion discussed in the PoA-DD?	Yes											
Compliance verified and validated?	Yes											
E.3 Description of the Sources and Gases Included in the SSC-CPA Boundary												
E.3.1	Has the spatial boundary (physical) of a typical CPA clearly defined? Does it include the physical and geographical location where the CPAs take place (area of the use of non-renewable biomass)?	EB 55 Annex 1 § 67a, 78ff	In A.4.1.2 PP has stated that "Each CPA will be limited by the territorial boundary of the host country in which it is located, and the physical location of the stoves distributed in that CPA will form the actual CPA boundary" This shall be validated at CPA during inclusion.		OK	OK						
E.3.2	Are all sources and gases within the boundary considered in a clear manner?	AMS II.G	Yes, Carbon dioxide as the only gas within the boundary have been considered in a clear manner. Its sources include solid fossil fuel, liquid fossil fuel and gaseous fuel use for cooking.		OK	OK						
E.3.3	Do the spatial and technological boundaries as verified on-site comply with the information indicated in the PoA-	AMS II.G	NA Since this is an international PoA project boundary shall be validated at CPA during		OK	OK						

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DD?		inclusion		
E.4 Identification and Description of the Baseline Scenario				
E.4.1 Are there any procedures in the methodology to identify the most reasonable baseline scenario? Does this include a description of the technology that would be employed in the absence of the CDM project activity? <i>(Please list them and review whether they were applied correctly)</i>	EB 55 Annex 1 § 81, 85 AMS-III.H; AMS I.D	According to the methodology " <i>It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.</i> " This is as indicated in E.4 of the PoA-DD and verified during the site visit.	OK	OK
E.4.2 Is the list of alternatives to a typical CPA complete? e.g., has it included the status-quo situation, the CPA not undertaken as a CDM project as well as other viable means of supplying the outputs or services that are to be supplied by the proposed CPA?	EB 55 Annex 1, §§ 67 (b), 82, §§ 104 – 106	NA In order to demonstrate additionality CPAs to be included under this PoA shall apply EB 65 Annex 3 PoA Standard which says ➤ PoAs that consist of one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities . ➤ PoAs that consist of one or more microscale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of EB 63, Annex 23 " Guidelines for demonstrating additionality of microscale project activities "	OK	OK
E.4.3 Does the PoA-DD identify correctly and exclude those options not in line with host country regulatory or legal requirements?	EB55 Annex 1, §§ 85, 87(d);	Not applicable as mentioned above	OK	OK
E.4.4 What is the most likely baseline scenario, in absence of	EB 55	According to the methodology " <i>It is assumed that in the absence of the project</i>	OK	OK

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the project activity, as indicated in the PoA-DD?	Annex 1, §§80-91)	<i>activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs."</i> This is as indicated in E.4 of the PoA-DD and verified during the site visit.		
E.4.5 Is additional background information on baseline data provided in PoA-DD annex 3? Is this information consistent with data presented by other sections of the PoA-DD and verifiable?	EB 33 Annex 43	No additional baseline information is provided in annex 3 of PoA and it is not stated whether this is left blank intentionally/on purpose.	PoA-CL6	OK
E.4.6 Are the provisions for the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	EB 55 Annex 1, § 92(a)	According to the methodology " <i>It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs."</i> More efficient ICS shall replace less efficient cooking regimes that use NRB. The calculation of NRB fraction has been done according to the prescription in the applied methodology and references used are publicly available information and/or verifiable. Since this is an international PoA host country specific data related to the CPA baseline shall be validated at the CPA level.	OK	OK

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E.5 ADDITIONALITY of a typical SSC-CPA					
E.5.1 Assessment and Demonstration of ADDITIONALITY for a typical SSC-CPA					
E.5.1.1	If required by methodology, check whether the latest version of the additionality tool is applied and confirm whether all steps are correctly applied	EB 55 Annex 1, §96	<p>Additionality shall be demonstrated according to EB 65 Annex 3: PoA Standard ,</p> <ul style="list-style-type: none"> ➤ PoAs that consist of one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities. ➤ PoAs that consist of one or more microscale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of EB 63, Annex 23 "Guidelines for demonstrating additionality of microscale project activities" 	OK	OK
E.5.1.2	Does the PoA-DD include provision that a typical CPA starting date will be defined in accordance with the CDM glossary of terms and substantiated with reliable evidences?	EB 55 Annex 1, §101	<p>PP has included the condition that the CPA start shall be after the PoA validation start date as one of the minimum Eligibility Criteria according to EB 65 Annex 3 § 14(d) PoA Standard in A.4.2.2 of PoA-DD</p> <p>The start date of the CPA will be specified in each CPA-DD and validated during inclusion</p>	OK	OK
E.5.1.3	Does the PoA-DD include provision that a typical CPA starting date will be after the commencement of validation of the PoA, i.e., the date on which the PDDs are first published for global stakeholder consultations? <i>Otherwise please refer to EB 47 meeting report §72.</i>	EB 55 Annex 38 §7(d)	<p>PP has included the condition that "<i>the CPA start shall be after the PoA validation start date</i>" as one of the minimum Eligibility Criteria according to EB 65 Annex 3 § 14(d) PoA Standard in A.4.2.2 of PoA-DD.</p>	OK	OK
E.5.1.4	Does the PoA-DD clearly and unambiguously state and justify the key criteria and data for assessing additionality of a CPA that is to be included into the	EB 55 Annex 1, §167	<p>Yes!</p> <p>Additionality shall be demonstrated according to EB 65 Annex 3: PoA Standard ,</p> <ul style="list-style-type: none"> ➤ PoAs that consist of one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of 	OK	OK

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CON.
PoA?		<p>Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities.</p> <ul style="list-style-type: none"> PoAs that consist of one or more microscale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of EB 63, Annex 23 "Guidelines for demonstrating additionality of microscale project activities" 		
<p>E.5.1.5 Is additionality demonstrated on PoA or CPA level? Describe whether the criteria and data for assessing additionality of a CPA shall be included into the PoA-DD or will be included in CPA-DD?</p>	<p>EB 47 §73</p>	<p>According to EB60 Para. 4 "The Board clarified that a full additionality assessment is not required in the context of component project activities (CPA), rather the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria."</p> <p>Since this PoA is going international and each would-be CPA host country has almost similar applicable conditions, additionality will be demonstrated at PoA level and included to the list of Eligibility Criteria (No. 7) as indicated in A.4.2.2 of PoA-DD.</p> <p>Additionality at the PoA level has been demonstrated according to EB 65 Annex 3: PoA Standard ,</p> <ul style="list-style-type: none"> PoAs that consist of one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities. PoAs that consist of one or more microscale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of EB 63, Annex 23 "Guidelines for demonstrating additionality of microscale project activities" 	<p>OK</p>	<p>OK</p>
<p>E.5.1.6 Is it clear how these criteria would be applied to assess</p>	<p>EB 55</p>	<p>Yes! According to EB60 Para. 4 "The Board clarified that a full additionality</p>	<p>OK</p>	<p>OK</p>

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CON.
the additionality of a typical CPA at the time of inclusion?	Annex 1, §167	<i>assessment is not required in the context of component project activities (CPA), rather the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria.</i> Additionality has been included as an eligibility Criterion		
E.5.1.7 Please describe how the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by the PP to support the demonstration of additionality is assessed and validated, e.g. using local knowledge, sectoral and financial expertise and considering other sources of information for cross checks	EB 55 Annex 1 § 95	PP has provided Stove Specification data and according to the energy saving calculations, energy savings per ICS is about 10 MWhth/year , which far below the 1.8 GWhth/year threshold. There are more than 30 Least Developed Countries in Africa and many of them shall be CPA host countries. Local knowledge and sectoral expertise confirm that the implementation of such small to micro scale projects in Africa faces many barriers which includes investment barrier and barrier due to common practice.	OK	OK
E.5.1.8 If a typical CPA applies for the latest 'Guidelines for demonstrating additionality of microscale project activities', how have the additionality criteria been established and justified?	EB 63 Annex 23	According to EB 65 Annex 3: PoA Standard , PP has included eligibility criteria that PoAs that consist of one or more microscale projects as CPAs shall adopt all the relevant requirements of EB 63, Annex 23 " Guidelines for demonstrating additionality of microscale project activities " in demonstrating additionality. This shall be validated at CPA level during inclusion taking into consideration EB60 Para. 4 " <i>The Board clarified that a full additionality assessment is not required in the context of component project activities (CPA), rather the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria.</i> "	OK	OK
<i>If Attachment A of Appendix B of the Modalities and Procedures was applied proceed to answer the following:</i>				

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CON.															
E.5.1.9 Does the PoA-DD include a complete list of barriers that prevents the project activity to be implemented without CDM?		The PoA-DD listed the following barriers: Barrier due to prevailing practice Investment barrier Other barriers are also mentioned	OK	OK															
E.5.1.10 Does the PoA-DD provide explanation to show that the PoA/CPA would not have occurred anyway due to at least one of the following barriers? (a) Investment barrier; (b) Technological barrier; (c) Barrier due to prevailing practice; (d) Other barriers.	EB 63 Annex 24 §1	<table><tr><th>Barrier</th><th>Discussed in PoA-DD?</th><th>Verifiable / validated?</th></tr><tr><td>Investment</td><td>Yes</td><td>Yes</td></tr><tr><td>Technological</td><td>NO</td><td>NO</td></tr><tr><td>Due to prevailing practice</td><td>Yes</td><td>Yes</td></tr><tr><td>Other</td><td>NA</td><td>NA</td></tr></table> Comments: The explanation provided in A.4.3 of PoA-DD can be confirmed based on local knowledge and sectoral knowledge based on practical experience in validating similar projects on the continent. The design and manufacturing of these stoves at the moment can't be done in Africa. Is this not a technological barrier?	Barrier	Discussed in PoA-DD?	Verifiable / validated?	Investment	Yes	Yes	Technological	NO	NO	Due to prevailing practice	Yes	Yes	Other	NA	NA	PoA-CL14	OK
Barrier	Discussed in PoA-DD?	Verifiable / validated?																	
Investment	Yes	Yes																	
Technological	NO	NO																	
Due to prevailing practice	Yes	Yes																	
Other	NA	NA																	
E.5.1.11 Does the barrier analysis take into account relevant national and/or sectoral policies / laws?	EB 55 Annex 1 §117	At the time of validation, there are no sectoral policies / laws in any African country governing the distribution or use of ICS. The barriers, however, take into account the peoples' customs and/or tradition, which is prevailing practice.	OK	OK															
E.5.1.12 Does the CPA employ at least one of the following grid-connected renewable electricity generation technologies of installed capacity up to 15 MW, that are automatically defined as additional? (a) Solar technologies (photovoltaic and solar thermal electricity generation);	EB 63 Annex 24 §2	NA The project does not involve any grid connected electricity	OK	OK															

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(b) Off-shore wind technologies; (c) Marine technologies (wave, tidal).				
E.5.2 KEY CRITERIA and Data for Assessing Additionality of a SSC-CPA				
E.5.2.1 Has section E.5.1 of the PoA-DD provided unambiguous criteria to assess a typical CPA's additionality as demonstrated in section E.5.1 of the PoA-DD?	EB 55 Annex 1, §108	Yes E.5.1 of PoA-DD states " <i>The PoA could include either small-scale or micro-scale CPAs. In the case of micro-scale CPAs these will be considered additional provided they satisfy the micro-scale additionality requirements specified in Section A.4.2.2 (Eligibility Criteria 6, test 1). In the case of small-scale CPAs, one of the barriers demonstrated in Section A.4.3 must be demonstrated to apply (Eligibility Criteria 6, test 2).</i> "	OK	OK
E.5.2.2 Are there any other key criteria and data for assessing additionality of a CPA which are necessary besides the ones mentioned above not included in the PoA-DD?	EB 55 Annex 1, § 167	No. Additionality of PoA shall be based on the Eligibility Criteria as stated in EB60 Para. 4 " <i>The Board clarified that a full additionality assessment is not required in the context of component project activities (CPA), rather the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria.</i> "	OK	OK
E.6 ALGORITHMS and/or FORMULAE used to Estimate EMISSION REDUCTIONS and PARAMETERS to be reported in the CPA-DD				
E.6.1 Methodological approach provided in the Approved Baseline and Monitoring Methodology applied in a typical CPA				
E.6.1.1 In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification) and are they in line with the actual situation verified on-site?	EB 55 Annex 1 §§ 90, 91	<p>The methodology provides just one option: "<i>It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs. Emission reductions would be calculated as:</i>"</p> $ER_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossilfuel}$ <p>Where:</p> <p>ER_y Emission reductions during the year y in tCO₂e</p>	OK	OK

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		<p>$B_{y,savings}$ Quantity of woody biomass that is saved in tonnes</p> <p>$f_{NRB,y}$ Fraction of woody biomass saved by the project activity in year y that can be established as NRB</p> <p>$NCV_{biomass}$ Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)</p> <p>$EF_{projected_fossilft}$ Emission factor for the substitution of non-renewable biomass by similar consumers. Use a value of 81.6 tCO₂/TJ⁶</p> <p>The equation has been applied correctly and it reflects the situation as verified on site.</p>		woody
E.6.1.2 In case the implementation of a typical CPA leads to GHG emissions within the CPA boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology, has this parameter been included in the calculation of the emission reductions?	EB 55 Annex 1, §77	PP has provided CPA-DD for the the first CPA as well a corresponding ER calculation sheet and these show some leakage and project emissions. Clarification is therefore requested as to how the sources of the emission and how they were calculated	PoA-CL15	OK

⁶ This value represents the emission factor of the substitution fuels likely to be used by similar users, on a weighted average basis. It is assumed that the mix of present and future fuels used would consist of a solid fossil fuel (lowest in the ladder of fuel choices), a liquid fossil fuel (represents a progression over solid fuel in the ladder of fuel use choices) and a gaseous fuel (represents a progression over liquid fuel in the ladder of fuel use choices). Thus a 50% weight is assigned to coal as the alternative solid fossil fuel (96 tCO₂/TJ) and a 25% weight is assigned to both liquid and gaseous fuels (71.5 tCO₂/TJ for Kerosene and 63.0 tCO₂/TJ for Liquefied Petroleum Gas (LPG)).

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E.6.2 EQUATIONS, including fixed Parametric Values, to be used for Calculation of ER of a SSC-CPA:												
E.6.2.1 Are the equations for calculating emission reductions applied correctly according to the applied approved methodology?	EB 55 Annex 1 §§67 (c), 89, 90, 91)	<p>Yes, the baseline emissions avoided, which correspond to the emission reduction achieved by the implementation of a typical CPA is calculated using the equation below.</p> $ER_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossilfuel}$ <p>Default values for NCV and EF have been applied correctly as per the methodology. Fraction of NRB ($f_{NRB,y}$) saved by the project activity will be calculated for each country during the inclusion of its first CPA. And this shall be done according to the requirement of the methodology. Publicly available FAO and IPCC data will be used where applicable. In the absence of publicly available information, or where deemed more appropriate, survey results, national or local statistics or other sources of information will be used.</p> <p>This shall be validated when including the first CPA in each of the host countries.</p>	OK	OK								
E.6.2.2 Have parameters with fixed values for the whole PoA been listed in section E.6.2 of the PoA-DD? <i>Only those parameters which can be determined at the stage of PoA validation and will be applied consistently for each CPA shall be included in section E.6.2 of the PoA-DD. Ex-ante estimation of monitoring parameters or parameters to be reported only at CPA inclusion stage shall not be included.</i>	AMS-II.G; EB 33 Annex 43	<p>Fixed parameter values used in the calculation of the emission reduced have been indicated in E.6.2 of PoA-DD. These includes:</p> <table><tr><th>Fixed Parameter</th><th>Default Value</th></tr><tr><td>$NCV_{biomass}$</td><td>0.015 TJ/tonne (IPCC for wood fuel)</td></tr><tr><td>$EF_{projected_fossilfuel}$</td><td>81.6 tCO₂/TJ</td></tr><tr><td>η_{old}</td><td>0.10 (as applicable) 0.2 (for others not indicated)</td></tr></table>	Fixed Parameter	Default Value	$NCV_{biomass}$	0.015 TJ/tonne (IPCC for wood fuel)	$EF_{projected_fossilfuel}$	81.6 tCO ₂ /TJ	η_{old}	0.10 (as applicable) 0.2 (for others not indicated)	OK	OK
Fixed Parameter	Default Value											
$NCV_{biomass}$	0.015 TJ/tonne (IPCC for wood fuel)											
$EF_{projected_fossilfuel}$	81.6 tCO ₂ /TJ											
η_{old}	0.10 (as applicable) 0.2 (for others not indicated)											

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			<div></div> <div>The efficiency of the system being replaced shall be validated at the CPA level during inclusion since this is an international PoA.</div>											
E.6.2.3	Have conservative assumptions been used when calculating the baseline emissions, project emissions and leakage?	AMS-II.G; EB 55 Annex 1 §§ 90, 91	PP has followed the prescription in the methodology to estimate baseline emission avoided by the implementation of the project activity. In order to account for leakage, the quantity of biomass used in the absence of the project activity in tonnes/ year, B_{old} is multiplied by a net to gross adjustment factor of 0.95, in which case surveys will not be required. Specific cases of conservative approaches shall be validated at CPA level since this is an international PoA.		OK	OK								
E.6.2.4	Are the formulae, including default values, required for the determination of leakage emissions correctly presented, enabling a clear identification of parameter to be used and / or monitored?	AMS-II.G;	In order to account for leakage (due to use/diversion of non-renewable woody biomass saved under the project activity by non-project households/users that previously used renewable energy sources), the quantity of biomass used in the absence of the project activity in tonnes/ year, B_{old} is multiplied by a net to gross adjustment factor of 0.95, in which case surveys will not be required.		OK	OK								
E.6.2.5	Is an unprotected Excel file with a detailed emission reduction calculation in a reproducible format (i.e. indicating the formulae applied and properly linked) provided by the PPs?	AMS-II.G;	Yes. The calculation sheet “ER_African Improved Cooking Stoves PoA_CP1_Ghana” has been submitted which contains ER calculations. Also $f_{NRB,y}$ calculations are presented in a clear and understandable manner.		OK	OK								
E.6.3 Data and Parameters that are to be reported in CPA-DD form:														
E.6.3.1	Parameter Title: $Q_{biomass}$ Estimate of average annual consumption of woody biomass per appliance (tonnes/year)	AMS-II.G;	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr></table>		Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	OK	OK
Parameter / Data Checklist	YES / NO /NA													
Title in line with methodology?	Yes													
Data unit correctly expressed?	Yes													
Appropriate description of parameter?	Yes													

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		<table><tr><td>If default is the sourced correctly referenced?</td><td>NA</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>Yes</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NO</td></tr></table>	If default is the sourced correctly referenced?	NA	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	Yes	If monitored, is the estimation reasonable?	NO											
If default is the sourced correctly referenced?	NA																		
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	Yes																		
If monitored, is the estimation reasonable?	NO																		
		Comments: Since this PoA is going international, the value of the estimated annual average consumption of woody biomass per appliance has not been included in the PoA-DD. This will be included in the first CPA-DD of every host country.																	
E.6.3.2 Parameter Title: $f_{NRB,y}$ Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass	AMS-II.G;	<table><tr><td>Parameter / Data Checklist</td><td>YES / NO /NA</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>NA</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>Yes</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	NA	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	NA	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	Yes	If monitored, is the estimation reasonable?	NA		OK	OK
Parameter / Data Checklist	YES / NO /NA																		
Title in line with methodology?	Yes																		
Data unit correctly expressed?	NA																		
Appropriate description of parameter?	Yes																		
If default is the sourced correctly referenced?	NA																		
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	Yes																		
If monitored, is the estimation reasonable?	NA																		
		Comments: Since this PoA is going international, the value the Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass has not been included in the PoA-DD. This will be included in the first CPA-DD of every host country.																	
E.6.3.3 Parameter Title: $NCV_{biomass}$ Net calorific value of the non- renewable biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)	AMS-II.G;	<table><tr><td>Parameter / Data Checklist</td><td>YES / NO /NA</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes		OK	OK										
Parameter / Data Checklist	YES / NO /NA																		
Title in line with methodology?	Yes																		

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			<table><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>Yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA</td></tr></table>	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	Yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA	If monitored, is the estimation reasonable?	NA							
Data unit correctly expressed?	Yes																			
Appropriate description of parameter?	Yes																			
If default is the sourced correctly referenced?	Yes																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			
If monitored, is the estimation reasonable?	NA																			
		Comments: Default has been applied as prescribed by the methodology																		
E.6.3.4	Parameter Title: <i>EF_{projected_fossilfuel}</i> Emission factor for the substitution of non-renewable biomass by similar consumers	AMS-II.G;	<table><tr><td>Parameter / Data Checklist</td><td>YES / NO /NA</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>Yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	Yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA	If monitored, is the estimation reasonable?	NA		OK	OK
Parameter / Data Checklist	YES / NO /NA																			
Title in line with methodology?	Yes																			
Data unit correctly expressed?	Yes																			
Appropriate description of parameter?	Yes																			
If default is the sourced correctly referenced?	Yes																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			
If monitored, is the estimation reasonable?	NA																			
		Comments: Default has been applied as prescribed by the methodology (0.5*96 + 0.25*71.5 + 0.25*63 = 81.6 tCO ₂ / TJ)																		
E.6.3.5	Parameter Title: <i>η_{old}</i> : Efficiency of the system being replaced, measured using representative sampling methods or based on referenced literature values (fraction)	AMS-II.G;	<table><tr><td>Parameter / Data Checklist</td><td>YES / NO /NA</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>Yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	Yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA		OK	OK		
Parameter / Data Checklist	YES / NO /NA																			
Title in line with methodology?	Yes																			
Data unit correctly expressed?	Yes																			
Appropriate description of parameter?	Yes																			
If default is the sourced correctly referenced?	Yes																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			

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		<table><tr><td>If monitored, is the estimation reasonable?</td><td>NA</td></tr></table>	If monitored, is the estimation reasonable?	NA															
If monitored, is the estimation reasonable?	NA																		
		Comments: Default value has been applied as prescribed by the methodology. Other prescribed default values shall be used as applicable. Since this is an international PoA specific cases shall be validated at the CPA level																	
E.6.3.6 Parameter Title: η_{new} : Efficiency of the system being deployed as part of the project activity (fraction)	AMS-II.G;	<table><tr><td>Parameter / Data Checklist</td><td>YES / NO /NA</td></tr><tr><td>Title in line with methodology?</td><td>NO</td></tr><tr><td>Data unit correctly expressed?</td><td>NO</td></tr><tr><td>Appropriate description of parameter?</td><td>NO</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>NO</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NO</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NO</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	NO	Data unit correctly expressed?	NO	Appropriate description of parameter?	NO	If default is the sourced correctly referenced?	NO	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NO	If monitored, is the estimation reasonable?	NO		PoA-CL7	OK
Parameter / Data Checklist	YES / NO /NA																		
Title in line with methodology?	NO																		
Data unit correctly expressed?	NO																		
Appropriate description of parameter?	NO																		
If default is the sourced correctly referenced?	NO																		
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NO																		
If monitored, is the estimation reasonable?	NO																		
		Comments: Clarification is requested as to why the efficiency of the system being deployed has not been included in section E.6.3 of PoA-DD.																	
E.6.3.7 Parameter Title LAF: Net to gross Adjustment Factor of 0.95 to account for Leakages	AMS-II.G;	<table><tr><td>Parameter / Data Checklist</td><td>YES / NO /NA</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>Yes</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	Yes	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA	If monitored, is the estimation reasonable?	NA		OK	OK
Parameter / Data Checklist	YES / NO /NA																		
Title in line with methodology?	Yes																		
Data unit correctly expressed?	Yes																		
Appropriate description of parameter?	Yes																		
If default is the sourced correctly referenced?	Yes																		
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																		
If monitored, is the estimation reasonable?	NA																		
		Comments: Default value has been applied as prescribed by the methodology (LAF																	

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			= Leakage Adjustment Factor).																	
E.6.3.8	Is the list of parameters presented in chapter E.6.3 considered to be complete with regard to the requirements of the applied methodology?	AMS-II.G;	No. See CL7		PoA-CL7	OK														
E.7 DESCRIPTION of the MONITORING PLAN and PARAMETERS to be MONITORED in each SSC-CPA																				
E.7.1 Data and Parameters to be Monitored by each CPA																				
E.7.1.1	Parameter Title: η_{new} : Annual check of the efficiency of all appliances deployed as part of the project activity (fraction) [or a representative sample thereof, at least once every two years (biennial)]	AMS-II.G;	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>NA</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NO</td></tr></table> Comments: Clarification is requested as to why the efficiency of the system being deployed has not been included in section E.6.3 of PoA-DD in the list of parameters to be reported in each CPA.		Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	NA	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA	If monitored, is the estimation reasonable?	NO	See PoA-CL7	OK
Parameter / Data Checklist	YES / NO /NA																			
Title in line with methodology?	Yes																			
Data unit correctly expressed?	Yes																			
Appropriate description of parameter?	Yes																			
If default is the sourced correctly referenced?	NA																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			
If monitored, is the estimation reasonable?	NO																			
E.7.1.2	Parameter Title: N_{all} (Total number of stoves installed) . Checking of all appliances or a representative sample thereof, at least once every two years (biennial) to determine if they are still operating or are replaced by an equivalent in service appliance.	AMS-II.G;	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>NA</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr></table>		Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	NA	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA	OK	OK		
Parameter / Data Checklist	YES / NO /NA																			
Title in line with methodology?	Yes																			
Data unit correctly expressed?	Yes																			
Appropriate description of parameter?	Yes																			
If default is the sourced correctly referenced?	NA																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			

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			<table><tr><td>If monitored, is the estimation reasonable?</td><td>NA</td></tr></table> <p>Comments: Since this is an international PoA the total number of installed stoves shall be included in CPA-DD for every CPA and validated during inclusion</p>		If monitored, is the estimation reasonable?	NA														
If monitored, is the estimation reasonable?	NA																			
E.7.1.3	Parameter Title: SOF Stove Operation Fraction. [Used to determine stoves that are still operating, measured ex-post through survey/ user feedback]	AMS-II.G;	<table><tr><td>Parameter / Data Checklist</td><td>YES / NO /NA</td></tr><tr><td>Title in line with methodology?</td><td>NO</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>NO</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>Yes</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>Yes</td></tr></table> <p>Comments: This parameter is not explicitly mentioned in the applied methodology. Clarification is required from PP concerning the parameter and the appropriateness of the value of 1 indicated in the PoA-DD</p>		Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	NO	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	NO	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	Yes	If monitored, is the estimation reasonable?	Yes	PoA-CL8	OK
Parameter / Data Checklist	YES / NO /NA																			
Title in line with methodology?	NO																			
Data unit correctly expressed?	Yes																			
Appropriate description of parameter?	Yes																			
If default is the sourced correctly referenced?	NO																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	Yes																			
If monitored, is the estimation reasonable?	Yes																			
E.7.1.4	Parameter Title: Fuel Consumption during the the project activity. [If the quantity of fuel saved is determined using the Kitchen Performance Test (i.e. paragraph 6, Option 1 of AMS-II.G version 03), monitoring shall ensure that this is monitored annually].	AMS-II.G;	<table><tr><td>Parameter / Data Checklist</td><td>YES / NO /NA</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>NA</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA</td></tr></table> <p>Comments: PP has not chosen this option</p>		Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	If default is the sourced correctly referenced?	NA	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA	If monitored, is the estimation reasonable?	NA	OK	OK
Parameter / Data Checklist	YES / NO /NA																			
Title in line with methodology?	NA																			
Data unit correctly expressed?	NA																			
Appropriate description of parameter?	NA																			
If default is the sourced correctly referenced?	NA																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			
If monitored, is the estimation reasonable?	NA																			

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E.7.1.5	Parameter Title: B_{old} Quantity of woody biomass used in the absence of the project activity in tonnes. [If option (b) in paragraph 7 of AMS-II.G version 03 is chosen for determining B_{old} , monitoring shall include the amount of thermal energy generated by the project technology t in year y]	AMS-II.G;	Parameter / Data Checklist		YES / NO /NA	OK	OK
			Title in line with methodology?		NA		
			Data unit correctly expressed?		NA		
			Appropriate description of parameter?		NA		
			If default is the sourced correctly referenced?		NA		
			If ex-ante determined, are data sources and assumptions appropriate and calculations correct?		NA		
			If monitored, is the estimation reasonable?		NA		
			Comments: PP has not chosen this option				
E.7.1.6	Parameter Title: Amount of woody biomass saved under the project activity that is used by non-project households/users (who previously used renewable energy sources or Use or increase use of non-renewable woody biomass saved under the project activity to justify the baseline of other CDM project activities). [In order to assess the leakage, monitoring shall include this parameter. Other data on non-renewable woody biomass use required for leakage assessment shall also be collected.]	AMS-II.G;	Parameter / Data Checklist		YES / NO /NA	OK	OK
			Title in line with methodology?		NA		
			Data unit correctly expressed?		NA		
			Appropriate description of parameter?		NA		
			If default is the sourced correctly referenced?		NA		
			If ex-ante determined, are data sources and assumptions appropriate and calculations correct?		NA		
			If monitored, is the estimation reasonable?		NA		
			Comments: PP has opted to account for leakage by applying the 0.95 Net-to-gross Adjustment Factor (LAF) as provided by the methodology				
E.7.1.7	Parameter Title: Disposal of low efficiency appliance. [Either the replaced low efficiency appliances are disposed of and not used within the boundary or within	AMS-II.G;	Parameter / Data Checklist		YES / NO /NA	OK	OK
			Title in line with methodology?		NA		
			Data unit correctly expressed?		NA		
			Appropriate description of parameter?		NA		

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the region]			<table><tr><td>If default is the sourced correctly referenced?</td><td>NA</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NA</td></tr></table>	If default is the sourced correctly referenced?	NA	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA	If monitored, is the estimation reasonable?	NA											
If default is the sourced correctly referenced?	NA																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			
If monitored, is the estimation reasonable?	NA																			
			Comments: PP has not chosen this option																	
E.7.1.8	Parameter Title: Fuel-wood Consumption due to continuous use of Baseline Stoves. [If baseline stoves continue to be used, monitoring shall ensure that the fuel-wood consumption of those stoves is excluded from B_{old} .]	AMS-II.G;	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>NO</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr><tr><td>If monitored, is the estimation reasonable?</td><td>NO</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	If default is the sourced correctly referenced?	NO	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA	If monitored, is the estimation reasonable?	NO		PoA-CL9	OK
Parameter / Data Checklist	YES / NO /NA																			
Title in line with methodology?	Yes																			
Data unit correctly expressed?	Yes																			
Appropriate description of parameter?	Yes																			
If default is the sourced correctly referenced?	NO																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			
If monitored, is the estimation reasonable?	NO																			
			Comments: The methodology does not prescribe any default value and the value of zero applied by the PP does not have any reference. For ex-ante estimation of ER zero cannot be considered conservative. Clarification is request for the appropriateness of this estimate.																	
E.7.1.9	Parameter Title: Amount of thermal energy generated by the project technology in year y. [If option (b) in paragraph 7 of AMS-II.G version 03 is chosen for determining B_{old}]	AMS-II.G;	<table><tr><th>Parameter / Data Checklist</th><th>YES / NO /NA</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>If default is the sourced correctly referenced?</td><td>NA</td></tr><tr><td>If ex-ante determined, are data sources and assumptions appropriate and calculations correct?</td><td>NA</td></tr></table>	Parameter / Data Checklist	YES / NO /NA	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	If default is the sourced correctly referenced?	NA	If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA		OK	OK		
Parameter / Data Checklist	YES / NO /NA																			
Title in line with methodology?	NA																			
Data unit correctly expressed?	NA																			
Appropriate description of parameter?	NA																			
If default is the sourced correctly referenced?	NA																			
If ex-ante determined, are data sources and assumptions appropriate and calculations correct?	NA																			

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			<div>If monitored, is the estimation reasonable?</div> <div>NA</div>			
			Comments: PP has not chosen this option			
E.7.1.10	Is the list of parameters presented in chapter E.7.1 considered to be complete with regard to the requirements of the applied methodology?	AMS-II.G;	See CL7		See PoA-CL7	OK
E.7.2 Description of the MONITORING PLAN for a CPA						
E.7.2.1	Is the operational and management structure clearly described and in compliance with the envisioned situation?	VVM § 166	Yes the CME has designed an operational and management arrangements as described in the PoA-DD according to the requirements of Validation and Verification Manual , paragraph 166, which is <i>"sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme"</i> . The CME will enter into contractual agreement with the DOs and Monitoring Organisations who shall be responsible for providing the data and/or report necessary to calculate ER. CME shall also provide training regarding monitoring and data collection as required.		See PoA-CL3	OK
E.7.2.2	Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	VVM § 166	The CME will enter into a contract with each DO involved in the implementation of CPAs under the PoA and also with the so-called Monitoring Organisations. This contract will include inter alia CDM-specific requirements relating to monitoring activities including the collecting of the necessary data required for ex-post monitoring of CPA. Dos and Monitoring Organisation shall report to the CME. Clarification is required of the schedule and of the kind of training to be provided to the various parties involved in the monitoring and in the collection of date related to each CPA.		PoA-CL10	OK

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CON.
E.7.2.3 Is it likely that the monitoring plan described in the PoA-DD can be properly implemented in the context of a typical CPA? E.g. Does the CME have trained personnel who are capable of the monitoring tasks? Does the management plan make provisions for meeting training and maintenance needs of the implementation of the CPA?	EB 55 Annex 1 123 (b)	The CME will enter into contractual agreement with the DOs and Monitoring Organisations who shall be responsible for providing the data and/or report necessary to calculate ER. CME shall also provide training regarding monitoring and data collection as required. However see CL10	See PoA-CL10	OK
E.7.2.4 Are the QA/QC procedures appropriate and sufficient to ensure the emission reductions achieved from a typical CPA can be reported ex-post and verified?	EB 55 Annex 1 123 (b)	As stated in E.7.2 of PoA-DD: <ul style="list-style-type: none"> ➤ "The CME will also oversee ex-post monitoring activities by providing guidance and training to the parties involved, which could include its own staff, DOs or other parties (for example, local marketing firm, university etc) contracted by the CME – "Monitoring Organisations" ➤ The CME will perform cross-checks on the distribution and monitoring information received for each CPA. ➤ The CME will be responsible for maintaining a secure PoA Distribution and Monitoring Database, covering the CPAs within the PoA. The Database will provide the necessary data for emissions reduction calculations and for verification. ➤ Either the originals of the CPA Monitoring Records or scanned copies of each Record will also be provided to the CME to enable cross-checking However see CL10	See PoA-CL10	OK
E.7.2.5 Have all means of implementing the monitoring plan, e.g. procedures for data management, emergency preparedness, been described clearly and in line with the methodology?	EB 55 Annex 1 123 (b), 124	As indicated in the PoA-DD „The CME will be responsible for maintaining a secure PoA Distribution and Monitoring Database, covering the CPAs within the PoA. The Database will provide the necessary data for emissions reduction calculations and for verification“. However, clarification is requested on the following: 1. How secure is the of data transfer from DOs and Monitoring Organisation to CME?	PoA-CL11	OK

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CHECKLIST QUESTION / VVM AND PoA REQUIREMENTS	SOURCE	MEANS AND FINDINGS OF VALIDATION	ASSESSMENT	FINAL CON.
		2. How robust is the data base or is there any backup in case of data corruption or technical failures		
E.7.2.6 Is it mentioned in the PoA-DD whether the PoA involves the replacement of equipment, and if so, how to verify this process to discount leakage?	AMS-II.G;	Yes and the monitoring shall include " <i>Check if there is any on-going use of replaced stoves</i> " as indicated in E.7.2. PP has opted to multiply B_{old} by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required.	OK	OK
E.7.2.7 If yes is there an independent monitoring plan in place to monitor the scrapping of replaced equipment?	AMS-II.G;	No independent plan as such is in place to monitor the scrapping of replaced stoves since scrapping is not directly prescribed by the methodology. Also it is not practicable to scrap the replaced stoves since end users tend to handover the old stoves to other relatives or use them in parallel with the new stoves. Nevertheless, the monitoring shall include " <i>Check if there is any on-going use of replaced stoves</i> " as indicated in E.7.2.	OK	OK
E.7.2.8 If yes does this plan indicate that the scrapped equipment should be stored until such correspondence has been checked and that the scrapping of replaced equipment should be documented and independently verified.	AMS-II.G;	NA The monitoring shall include " <i>Check if there is any on-going use of replaced stoves</i> " as indicated in E.7.2 and the ER shall be discounted accordingly.	OK	OK
E.7.2.9 If applicable, is additional background information on monitoring provided in PoA-DD annex 4? Is this information consistent with data presented in other sections of the PoA-DD and verifiable?	EB 33 Annex 43	No additional background information on monitoring has been provided in PoA-DD annex 4 and it has not been stated whether it is left blank on purpose	OK	OK
E.8 Date of completion of the Application of the Baseline Study and Monitoring Methodology and the Name of the responsible Person(s)/Entity(ies)				
E.8.1 Is the date when the baseline was determined indicated	PoA-DD	Yes in E.8 of PoA-DD as 13 November 2011.	OK	OK

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correctly in PoA-DD section E.8 and is this date consistent with the project timeline?				
E.8.2 Who is/are the person(s) / entity (ies) responsible for developing the baseline studies indicated in section E.8 of the PoA-DD?	PoA-DD	<p>The baseline was developed by :</p> <p>Mr Marc André Marr & Mr Killian Wentrup Perspectives Climate Change GmbH Baumeisterstr. 2 22099 Hamburg Germany</p> <p>AND</p> <p>Mr Patrick Horka, & Mr Ronnie Twesigye South Pole Carbon Asset Management Ltd. Technoparkstr. 1 8005 Zurich Switzerland</p>	OK	OK

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Resolution of Corrective Action and Clarification Requests including list of Forward Action Requests

Description of Findings by the Validation Team (CAR, CR, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Validation Team Assessment / Conclusion <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion (OK Closed Out / Not Closed out)
PoA-CAR No. 1 (GLC on 16.01.2012) The minimum eligibility Criteria according to EB 65 Annex 3 § 14 PoA Standard has not been met by the Eligibility Criteria presented in A.4.2.2 of PoA-DD	PP on 19.03.2012 The Eligibility Criteria in Section A.4.2.2 have been updated in line with the Project Standard as evidenced in version 2.0 of the PoA-DD.	GLC on 16.04.2012 (1st. Round) PP has revised the Eligibility Creiteria section according to EB 65 Annex 3 § 14 Project Standard . However Applicability of the methodology, LSC, EIA and CPA crediting period have not been considered in the drafting of the EC.	OK Closed out
	PP on 05.06.2012 (2nd. Round) The following ECs have been added/clarified: <ul style="list-style-type: none"> • Avoiding double counting (EC 2) • Applicability of methodology (EC 3, 4 and 6) • End-user group (EC 9) • Not previously registered as CDM project (added to CME-DO contract in EC 13) • Local Stakeholder Consultation (EC 14) • Environmental Analysis (EC 15) • CPA crediting shall not be longer than PoA duration (EC 16) In addition, EC 8 (ODA) has been amended to clarify that option b) can be satisfied where it is confirmed in the LoA of the host country.	GLC on 12.06.2012 (2nd. Round) PP has revised the Eligibility Creiteria section and this is fully in agreement with EB 70 Annex 5 and EB 65 Annex 3 § 14 PoA Standard . This issue is therefore considered closed out.	

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Description of Findings by the Validation Team (CAR, CR, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Validation Team Assessment / Conclusion <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion (OK Closed Out / Not Closed out)
<u>PoA-CAR No. 2 (GLC on 16.01.2012)</u> The CME has not yet developed the PoA Sampling Plan according to Standard for Sampling and Surveys for CDM Projects Activities and PoAs version 2.0 and include this in the PoA-DD.	<u>PP on 19.03.2012</u> PoA-DD has been amended and v2.0 includes a Sampling Plan in Section E.7.2.	<u>GLC on 16.04.2012 (1st. Round)</u> PP has included a sampling plan in section E.7.2 of PoA-DD. However, this is not sufficient enough to ensure that it shall be applied across all CPAs during the entire crediting period.	OK Closed out
	<u>PP on 05.06.2012 (2nd. Round)</u> Sampling Plan has been further elaborated in PoA-DD and in Annex 4 to describe in detail how it will be applied across all CPAs to be included in the PoA. The CPA-DD has also been elaborated to show how the steps outlined in the Sampling Plan and in Annex 4 will be followed to apply the Sampling Plan to the first CPA.	<u>GLC on 12.06.2012 (2nd. Round)-Revised</u> PP has developed a 'PoA-wide sampling plan' covering both cross-CPA sampling and CPA-specific sampling. This is based on simple random sampling according to the applied methodology AMS-II.G version 03^{2/} and as per EB 69 Annex 5 & 4 "Guidelines for sampling and surveys for CDM project activities and programme of activities (version 02.0)" and Standard for Sampling and Surveys for CDM Projects Activities and PoAs version 3.0 ^{53/} with the requirements of the applied methodology taking precedence. For CPA-specific sampling the households will be sampled using 90/10 confidence/precision (if the parameters shall be sampled annually otherwise, 95/5	

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<p>Description of Findings by the Validation Team (CAR, CR, FAR)</p> <p><i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i></p>	<p>Project Participants Response</p> <p><i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i></p>	<p>GLC Validation Team Assessment / Conclusion</p> <p><i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i></p>	<p>Final Conclusion (OK Closed Out / Not Closed out)</p>
		<p>confidence/precision shall be applied for biennial sampling) as the criteria for reliability of sampling efforts according to the Standard for Sampling and Surveys for CDM Projects Activities and PoAs version 3.0^{53/}. This is in compliance with AMS-II.G version 03^{2/} which states that "when biennial inspection [of a particular parameter] is chosen a 95% confidence interval and a 5% margin of error requirement shall be achieved for the sampling parameter. On the other hand when the project proponent chooses to inspect annually, a 90% confidence interval and a 10% margin of error requirement shall be achieved for the sampled parameters".</p> <p>It includes elements of sampling design, data to be collected and an implementation plan. The application of the monitoring methodology is transparent and GLC believes that the CME will be able to implement the monitoring plan and the project emission reductions would be able to be reported ex-post and verified.</p>	

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Description of Findings by the Validation Team (CAR, CR, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Validation Team Assessment / Conclusion <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion (OK Closed Out / Not Closed out)
		This issue is therefore considered closed out.	
<u>PoA-CAR No. 3 (GLC on 16.01.2012)</u> The CME has not stated categorically whether there is any public funding of this PoA. The source of funds for the PoA and its CPA should be mentioned in the PoA-DD	<u>PP on 19.03.2012</u> The PoA-DD has been amended to clarify that no public funding was received for the development or implementation of the PoA. Separate letters from Envirofit International Ltd and the Shell Foundation, which has provided funding for the development of the PoA, are provided to confirm this.	<u>GLC on 16.04.2012</u> The PoA-DD has been revised to include a declaration that no ODA is involved in the implementation of the PoA. According to the grant funding donated by Shell Foundation ^{23/} (through its Breathing Space Programme) "The grant finance provided by Shell Foundation is suitable to establish a pilot manufacturing and dissemination activity in the initial years before carbon finance can become an adequate revenue source." Shell Foundation and the CME have both provided declarations that no ODA is involved in the implementation of the PoA and CPAs. This issue is therefore considered closed out	OK Closed out
<u>PoA-CAR No. 4 (GLC on 16.01.2012)</u> The PoA start date has been indicated as 01/07/2012 However, the starting date of the first CPA, to be implemented in Ghana, has been indicated as 01/02/2012	<u>PP on 19.03.2012</u> The starting date of the PoA is the start of validation, which is the date that the PoA documentation was uploaded on the UN website and made available for global stakeholder	<u>GLC on 16.04.2012 (Revised)</u> PP has changed the starting date of the PoA to 13/12/2011 defined as the start of validation, which is the date that the PoA documentation was uploaded on the UN website and made available for	OK Closed out

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<p>Description of Findings by the Validation Team</p> <p>(CAR, CR, FAR)</p> <p><i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i></p>	<p>Project Participants Response</p> <p><i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i></p>	<p>GLC Validation Team Assessment / Conclusion</p> <p><i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i></p>	<p>Final Conclusion (OK Closed Out / Not Closed out)</p>
<p>(expected starting date of the CPA).The CPA start date is therefore prior to the PoA start date and according to EB 60, Annex 26 April 15, 2011the Board agreed that as at present it is expected that no component of the programme will commence prior to the start date of validation.</p>	<p>consultation (i.e. the 13th of December 2011). The CPA starting date is not until 3 January 2012, which is the date the stoves were shipped from port in China (see Bill of Lading, additional Annex 11).</p>	<p>global stakeholder consultation. This is according to the EB 70 CDM glossary of terms version 07. This issue is therefore considered closed out.</p>	
<p><u>PoA-CAR No. 5 (GLC on 16.01.2012)</u></p> <p>PP has stated in D.1 of PoA-DD that "<i>Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA.</i>" However, the check box does not reflect this.</p>	<p><u>PP on 19.03.2012</u></p> <p>The PoA-DD has been amended to clarify that the LSC will be conducted at the country level, to be held in conjunction with the first CPA in each country. Any subsequent CPAs will include the results of this LSC.</p>	<p><u>GLC on 16.04.2012</u></p> <p>PP has revised the PoA-DD to indicate that LSC shall be conducted at the CPA level and at a country level once before the implementation of the first CPA. Subsequent CPAs in the same host country shall not be required to repeat the LSC. The DOE contracted for the inclusion shall validate the scope of the LSC conducted at the national level and its applicability to subsequent CPAs. This issue is therefore considered closed out.</p>	<p>OK Closed out</p>
<p><u>PoA-CAR No. 6 (GLC on 16.01.2012)</u></p> <p>According to EB 60, Annex 26 April 15, 2011the Board agreed that as at present it is expected that no component of the programme will commence prior to the start date of validation. The CPA start date should therefore not be prior to the start of the PoA</p>	<p><u>PP on 19.03.2012</u></p> <p>The PoA start date has been changed to 13/12/2011.</p> <p>The starting date of the PoA is the start of validation, which is the date that the PoA documentation was uploaded on the UN website and made available for global stakeholder</p>	<p><u>GLC on 10.04.2012 (Revised)</u></p> <p>The start date of the CPA has been indicated as 03/01/2012 which is the date of departure of the first shipment of stoves from port in China to Ghana. PP has changed the PoA start date to 13/12/2011 which is the start of Global stakeholder Consultation, which is the date that the PoA documentation was uploaded on the UN website</p>	<p>OK Closed out</p>

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	consultation	and made available for global stakeholder consultation. This is according to the EB 70 CDM glossary of terms version 07. This issue is therefore considered closed out.	
<u>PoA-CAR No. 7 (GLC on 06.02.2012)</u> PP has stated in D.1 of PoA-DD that " <i>Since the PoA boundary consists of more than one host country, a local stakeholder consultation would need to be conducted once per host country participating in the PoA.</i> " However, the check box does not reflect this.	<u>PP on 19.03.2012</u> The PoA-DD has been amended to clarify that the LSC will be conducted at the country level, to be held in conjunction with the first CPA in each country. Any subsequent CPAs will include the results of this LSC.	<u>GLC on 16.04.2012</u> PP has revised the PoA-DD to indicate that LSC shall be conducted at the CPA level and at a country level once before the implementation of the first CPA. Subsequent CPAs in the same host country shall not be required to repeat the LSC. The DOE contracted for the inclusion shall validate the scope of the LSC conducted at the national level and its applicability to subsequent CPAs. This issue is therefore considered closed out.	OK Closed out

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<p><u>PoA-CAR No. 8 (GLC on 08.03.2012)</u></p> <p>The calculation of emission reductions provided in the calculation sheet is not according to the applied methodology AMS-II.G version 03. In particular, the sources of the leakage and project emissions presented in the first CPA-DD and its corresponding ER calculation sheet has not been justified and the calculation steps provided.</p>	<p><u>PP on 19.03.2012</u></p> <p>The calculation of emissions reductions in the spread sheet (Annex 1) (and displayed in the summary tables in the CPA-DD) has been amended. There are no project emissions and no leakage emissions because these are already taken into account in the calculation of savings as part of the application of the methodology AMS II G v3).</p>	<p><u>GLC on 10.04.2012</u></p> <p>PP has revised the ER calculation to be in accordance with the applied methodology. There are no direct project and or leakage emissions. Leakage emissions as a result of the 'bounce effect' have been foreseen in the calculation of savings as a result of the implementation of the project activity. This issue is therefore considered closed out</p>	<p>OK Closed out</p>
<p><u>PoA-CAR No. 9 (GLC on 08.03.2012)</u></p> <p>According to EB 55 Annex 38 Procedure for registration of a programme of activities as a single project activity version 4.1 "The operators of individual CPAs are not required to be project participants. CDM programme participation is only recorded at the PoA level". However, section A.3 does not contain the CPA host country/-ies.</p>	<p><u>PP on 19.03.2012</u></p> <p>Section A.3 of the PoA-DD has been amended, such that the host countries are now included in the table.</p>	<p><u>GLC on 10.04.2012</u></p> <p>PP has revised section A.3 of the PoA-DD to include the possible list of CPA host countries with the CME has PP. This issue is therefore considered closed out.</p>	<p>OK Closed out</p>
<p><u>PoA-CAR No. 10 (GLC on 16.04.2012)</u></p> <p>The approach to determine f_{NRB} to be applied to future CPAs has not been included in the PoA-DD and this should be supported by evidences. In particular, the approach taken to calculate Gw is not</p>	<p><u>PP on 05.06.2012</u></p> <p>The PoA-DD has been amended to adopt the approach in the SSC WG as published at http://cdm.unfccc.int/Panels/ssc_wg/index.html.</p>	<p><u>GLC on 12.06.2012 (2nd. Round)</u></p> <p>PPs have conservatively adopted the approach in Information note: Default values of f_{NRB} for LDCs and SIDs^{43/} of annex 20 of CDM-SSC WG 35th Meeting Report for the calculation of f_{NRB} whereby</p>	

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<p>traceable. Furthermore, considering that CPAs shall also be implemented in LDCs, PP has not demonstrated that the approach to determine f_{NRB} would yield the same results as that used by CDM SSC WG as published at http://cdm.unfccc.int/Panels/ssc_wg/index.html. Also, PP has not demonstrated that the approach would yield conservative values for f_{NRB} in both LDCs and non LDCs.</p>	<p>(Also see PoA-DD Annex 3 additional Baseline Information provided).</p> <p>Growth rate of biomass is calculated as a weighted average based on FAO reporting on distribution of total forest area by ecological zone and IPCC above-ground biomass growth rates for different ecological zones in t/ha/yr in year y. The weighted average is calculated following the same approach as UNFCCC (above ground biomass growth for each ecological zone for both under and over 20years is averaged (from 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 4, Table 4.9); the average for each ecological zone is multiplied by the corresponding distribution of total forest area, the results for different ecological zones are summed up to derive the biomass growth rate used to estimate f_{NRB}.</p> <p>Additional explanation of the approach to be applied to future CPAs including those in both LDCs and non-LDCs has been provided - see section E.6.3 second table in the row for any</p>	<p>only biomass used in household is considered and not the total biomass harvest. Also Project participants shall use applicable default values, detailed formulas or approved tools provided by the UNFCCC to establish f_{NRB}, if available at the time of CPA inclusion. GLC can therefore confirm that the baseline for the first CPA in Ghana (i.e. with respect to the fraction of woody biomass used in the absence of the project activity in year y that can be established as non renewable) has been calculated correctly and according to the applied methodology. PPs have applied the approach in the CPA in Ghana to calculate the f_{NRB} value of 99%. This issue is therefore considered closed out.</p>	<p>OK Closed out</p>

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	<p>comments, and Annex 3 of the PoA-DD). This approach would yield the same values as the SSC WG method or more conservative values than the SSC WG method; and is thus applicable in both LDCs and non-LDCs as the conservative value will be used.</p>		
<p><u>PoA-CL No. 1 (GLC on 16.01.2012)</u></p> <p>In this PoA the technologies and measures include the introduction of improved cooking stoves produced by Envirofit. However, it is stated in the PoA-DD that „the stoves that will be promoted will burn and replace either wood fuel or charcoal fuel“.</p> <p>It is not well understood how the stoves will replace either wood fuel or charcoal fuel.</p>	<p><u>PP on 19.03.2012</u></p> <p>The PoA-DD has been amended to clarify that “The stoves that will be promoted will burn either wood fuel or charcoal fuel and will replace less efficient stoves burning either wood fuel or charcoal fuel”.</p>	<p><u>GLC on 16.04.2012</u></p> <p>PP has revised the wording accordingly. This issue is therefore considered closed out.</p>	<p>OK Closed out</p>
<p><u>PoA-CL No. 2 (GLC on 16.01.2012)</u></p> <p>CME are requested to clarify how it shall be determined whether any 3rd party agent actually received training and whether they are aware that their activities are being included under a PoA</p>	<p><u>PP on 19.03.2012</u></p> <p>The agreements between the Distributing Organisations (DOs) and their 3rd party agents specify that training will be provided and the agents are required to sign a training record for their participation. This record will then be</p>	<p><u>GLC on 16.04.2012</u></p> <p>Sample agreement forms between the DOs and any 3rd party agent has been provided to the DOE. There is provision to ensure a smooth cooperation during CPA implementation. Similarly, training manuals for entry of sales data</p>	<p>OK</p>

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	<p>provided by the DO to the CME to prove that those 3rd parties actually took part in the training. In addition, the contracts between the DO and its third party agents clearly specify that the third parties are aware that their activities are being included in the PoA (see additional Annex 7). The PoA-DD has been amended to reflect this procedure and a copy of the training manual is attached.</p>	<p>into Sales Record and for entering of sales data into the Distribution Record have been provided to the DOE. GLC can confirm that these manuals are are well designed to meet the requirement. This issue is therefore considered closed out.</p>	<p>Closed out</p>
<p><u>PoA-CL No. 3 (GLC on 16.01.2012)</u></p> <p>The „CME - Monitoring Organisations – DO“ relationship is not yet clearly described in the PoA-DD considering that the monitoring arrangement should be <i>“sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme”</i> according to Validation and Verification Manual, paragraph 166</p>	<p><u>PP on 19.03.2012 (1st. Round)</u></p> <p>PDD has been amended to better clarify the relationship between the CME, the DOs and the Monitoring Organisations.</p> <p>The Monitoring Plan has been adjusted to delete the reference to a “CPA Monitoring Report”, which was confusing. The “Monitoring Record” will be provided by the actual party carrying out monitoring activities to the CME.</p> <p><u>PP on 05.06.2012 (2nd. Round)</u></p> <p>The PoA-DD (section A.4.2.2) has been clarified. It states that that the CME is responsible for monitoring, but that it may use</p>	<p><u>GLC on 16.04.2012 (1st. Round)</u></p> <p>It is still not clear who this Monitoring Organisation is. To whom is it answerable?</p> <p><u>GLC on 12.06.2012 (2nd. Round)</u></p> <p>PP has included much detail in the monitoring section. The “Monitoring responsibilities for Envirofit Cookstove PoA” provided shows exactly that the MO would be under the supervision of the CME. GLC can therefore confirm that the monitoring plan is <i>“sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the</i></p>	<p>OK Closed out</p>

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	<p>contractors who will be trained to follow correct procedures according to the monitoring plan. The term "Monitoring Organisation" is simply used as a general term since the actual contractors that will be used have not been appointed yet. This does not affect the procedures, nor the fact that such contractors will answer directly to the CME. An additional proof (see Proof 24) has been provided to clarify the sharing of the roles and responsibilities.</p>	<p><i>implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme" according to Validation and Verification Manual, paragraph 166.</i></p> <p>This issue is therefore considered closed out.</p>	
<p><u>PoA-CL No. 4 (GLC on 16.01.2012)</u></p> <p>Considering that CPAs under this PoA shall be implemented in different countries with different regulations and/laws on the environment, more explanation is required why EIA shall not be conducted at CPA level</p>	<p><u>PP on 19.03.2012</u></p> <p>PoA-DD has been amended to clarify that the EIA – if required - will be done for first CPA in each country. If, alternatively, an exemption is required, then this will be obtained for the first CPA in each country as well.</p>	<p><u>GLC on 10.04.2012</u></p> <p>PP has indicated in section C.1 of the PoA-DD that EIA shall be conducted at the CPA level. It is also logical to conduct an EIA once per host country to cover subsequent CPAs. This shall be decided by the host country and validated during inclusion by the contracted DOE. This issue is therefore considered closed out.</p>	<p>OK Closed out</p>
<p><u>PoA-CL No. 5 (GLC on 16.01.2012)</u></p> <p>Clarification is requested as to why the Stakeholder meeting held in Ghana has been presented in the PoA-DD for a PoA whose CPAs shall be implemented in many countries.</p>	<p><u>PP on 19.03.2012</u></p> <p>The PoA-DD has been amended to suit a multi-country PoA. We have checked the box indicating that the LSC has been done at the CPA level, and removed the summary of the</p>	<p><u>GLC on 16.04.2012</u></p> <p>PP has indicated in section D.1 of the PoA-DD that LSC shall be conducted at the CPA level. It is also logical to conduct one LSC per CPA host country if participation shall take the whole country into</p>	

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	<p>meeting from the PoA-DD and this section has been put in CPA-DD. The PoA-DD also includes a new section to clarify the approach that is being taken, stating that "a national-level LSC will be conducted in conjunction with the first CPA to be included in each host country. For subsequent CPAs, the CPA-DDs will include the results of this national-level LSC."</p>	<p>consideration. Participation and means of inviting stakeholders' comments shall be validated by the contracted DOE at the CPA level during inclusion. This issue is therefore considered closed out.</p>	<p>OK Closed out</p>
<p>PoA-CL No. 6 (GLC on 16.01.2012)</p> <p>No additional baseline information is provided in annex 3 of PoA and it is not stated whether this is left blank intentionally/on purpose.</p>	<p>PP on 19.03.2012 (1st. Round)</p> <p>Since the baseline is to be established at the CPA level, for the first CPA in each country using national values, the Annex 3 in the PoA-DD is left intentionally blank.</p>	<p>GLC on 16.04.2012 (1st. Round)</p> <p>Annex 3 in PoA-DD version 2 is not blank as such. Concerning the approach to determine f_{NRB} see PoA-CAR10</p>	<p>OK Closed out</p>
	<p>PP on 05.06.2012 (2nd. Round)</p> <p>Annex 3 now includes detailed description of the approach that shall be used for the determination of f_{NRB} including for future countries to be included post registration. This approach is consistent with the approach used by CDM SSC WG as published at http://cdm.unfccc.int/Panels/ssc_wg/index.html. The PoA-DD has also been clarified to state that where default values are available and approved</p>	<p>GLC on 12.06.2012 (2nd. Round)</p> <p>Additional baseline information on the calculation of f_{NRB} has been provided in Annex 3. This issue is therefore considered closed out</p>	

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	<p>by the DNAs of host countries these will be used. Further, to be conservative in the case where no such values are available, it has been clarified that when values for fNRB are established in a first CPA in a country, these will only be used for 10 years. After this time a new value must be established.</p>		
<p><u>PoA-CL No. 7 (GLC on 16.01.2012)</u></p> <p>Clarification is requested as to why the efficiency of the system being deployed has not been included in section E.6.3 of PoA-DD in the list of parameters to be reported in each CPA.</p>	<p><u>PP on 19.03.2012</u></p> <p>The PoA-DD has been amended to include the efficiency of the system being deployed, which is represented by parameter η_{new}.</p> <p>The actual value of this parameter will be determined at the CPA level. The value will be based on manufacturer specifications for the purposes of ex-ante emissions reduction estimation. During monitoring, water boiling tests will be conducted for a representative sample of households to establish the actual value of η_{new} to be applied for emissions reduction calculations for each relevant monitoring period.</p>	<p><u>GLC on 16.04.2012</u></p> <p>PP has included the efficiency of the system being deployed (η_{new}) among the list of parameters to be reported in each CPA. The issue is therefore considered closed out</p>	<p>OK Closed out</p>
<p><u>PoA-CL No. 8 (GLC on 16.01.2012)</u></p> <p>The parameter Stove Operation Fraction is not explicitly</p>	<p><u>PP on 19.03.2012</u></p> <p>The parameter SOF is required in order to apply the requirements in paragraph 16 of the SSC</p>	<p><u>GLC on 16.04.2012</u></p> <p>Considering that the value of 1 applied in the PoA-</p>	

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<p>mentioned in the applied methodology. Clarification is required from PP concerning the parameter and the appropriateness of the value of 1 indicated in the PoA-DD</p>	<p>methodology AMS II G v3: <i>Monitoring shall also consist of checking of all appliances or a representative sample thereof, at least once every two years (biennial) to determine if they are still operating or are replaced by an equivalent in service appliance.</i> The PoA-DD has been amended to clarify that in order to apply this requirement, the CME will select a sample of stoves from the PoA Distribution and Monitoring Database and visit the households which received these stoves. The PoA (Section E.7.1) has been amended to clarify that an assumed value for SOF will be used for estimating emissions reductions in each CPA-DD ex-ante. The results of monitoring will be considered to determine whether this assumed value should be adjusted for the purposes of ex-ante estimation in subsequent CPAs. As a result of these changes, no value for SOF is applied at the PoA level. Rather a value is applied at the CPA level. The value to be applied at the CPA level has been reduced to</p>	<p>DD for GSC meant that all stoves distributed shall remain operational throughout was not only unrealistic but also not conservative, the DOE can confirm, based on sectoral expertise, that 0.95 or 95% operation and 5 % drop off rate is more realistic and also would lead to a conservative estimation of ex-ante emission reduction. The PoA-DD has been revised accordingly and the issue is therefore considered closed out.</p>	<p>OK Closed out</p>

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	0.95, which is in line with the most recent registered efficient cooking stove PoA, See "Improved Cooking Stoves for Nigeria Programme of Activities" CDM Reference 5067.		
PoA-CL No. 9 (GLC on 16.01.2012) The methodology does not prescribe any default value for Fuel-wood Consumption due to continuous use of Baseline Stoves and the value of zero applied by the PP does not have any reference. For ex-ante estimation of ER zero cannot be considered conservative. Clarification is request for the appropriateness of this estimate.	PP on 19.03.2012 The PoA-DD has been amended to clarify that an assumed value will be applied at the CPA level for the purposes estimating emissions reductions ex-ante. Thus, no value is applied at the PoA level. The value to be applied in the first CPA is provided in the responses to the validation findings for the first real case CPA-DD. (The value to be applied for ex-ante estimation of emissions reductions in CPA #1 in Ghana is equivalent to 5% of the total annual woody biomass consumption, which is based on a scenario of an average end user cooking the equivalent of one meal per week using the replaced stove). Depending on the results of monitoring, the CME may adjust the assumed value for future CPAs.	GLC on 16.04.2012 PP has designed a sampling plan that considers the determination of Fuel-wood Consumption due to continuous use of Baseline Stoves. The approach is considered appropriate by the DOE. Considering that the vale of zero applied in the PoA-DD for GSC meant that no household shall use the old stove upon purchasing the new ICS was not only unrealistic but also not conservative, the value of 5% is confirmed by the DOE, based on local knowledge and sectoral expertise, to be both realistic and conservative in ex-ante estimation of emission reductions. The PoA-DD has been revised accordingly and the issue is therefore considered closed out.	OK Closed out
PoA-CL No. 10 (GLC on 16.01.2012) Clarification is required of the kind of training to be	PP on 19.03.2012 The CME will provide training for all CPA	GLC on 16.04.2012 The CME has developed training manuals for entry	OK Closed out

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<p>Description of Findings by the Validation Team (CAR, CR, FAR)</p> <p><i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i></p>	<p>Project Participants Response</p> <p><i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i></p>	<p>GLC Validation Team Assessment / Conclusion</p> <p><i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i></p>	<p>Final Conclusion (OK Closed Out / Not Closed out)</p>
<p>provided to the various parties involved in the monitoring and in the collection of data related to each CPA.</p>	<p>implementers to guide the distribution of stoves, the collection of data at the time of sale of ICS and on the correct procedures for uploading data to the CME. The initial training for CEESD, the DO for the first (real case) CPA in Ghana, was conducted on Friday 24th February 2012 by Nathan Lorenz.</p> <p>Training covered the procedures to be followed in the collection of data, filling out of the CPA Distribution Records (sales forms), and the filling out and uploading of the excel-based CPA Distribution Reports (data sheets). Copies of the training manuals developed by the CME are provided to the DOE for validation.</p> <p>In addition, the CME will provide training for parties that are involved in ex-post monitoring activities (for example, if a market research firm is hired to conduct sampling of households). This training would guide sample selection, the conducting of survey questionnaires and the completion of monitoring templates to be developed by the CME.</p>	<p>of sales data into the Sales Record and for entry of sales data into the Distribution Record and these have been provided to the DOE. GLC can confirm that these manuals are well designed to meet the requirement. This issue is therefore considered closed out.</p>	

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Description of Findings by the Validation Team (CAR, CR, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Validation Team Assessment / Conclusion <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion (OK Closed Out / Not Closed out)
<p><u>PoA-CL No. 11 (GLC on 16.01.2012)</u></p> <p>Clarification is requested on the following:</p> <ol style="list-style-type: none"> 1. How secure is the of data transfer from DOs and Monitoring Organisation to CME? 2. How robust ist he data base or is there any backup incase of data corruption or technical failures 	<p><u>PP on 19.03.2012</u></p> <p>The CME has developed an excel-based PoA Distribution and Monitoring Database which was made available to the DOE during the on-site visit. This database will contain all data relating to each CPA included in the PoA. Data sheets (CPA Distribution Reports) will never be stored on the computers of the individual CPA implementers, rather, they will upload the data sheets to it's the CME's server, which is currently located on a "Sharepoint" system. That system automatically backs up every night any files that have been modified, so there is a constant back up. The files are backed up onto two separate hard drives that are swapped out each month so there is always one drive offsite.</p>	<p><u>GLC on 16.04.2012</u></p> <p>The CME has developed training manuals for entry of sales data into the Sales Record and for entrying of sales data into the Distribution Record and these have been provided to the DOE. From the snapshots provided to the DOE, GLC can confirm that the entry of information is web-based. It also includes an authentication of the user. GLC can confirm that the user interface is designed to be user friendly and with the back-up schedule envisage, GLC is confident that data and information shall be secured.</p> <p>This issue is therefore considered closed out.</p>	<p>OK Closed out</p>
<p><u>PoA-CL No. 12 (GLC on 08.03.2012)</u></p> <p>PP has indicated that this PoA shall include both small and micro scale CPAs. However, the key criteria for assessing additionality of the CPA are not according to EB 65 Annex 3: PoA Standard recommendations. In particular, the threshold for SSC-CPA and micro-scale CPAs are not</p>	<p><u>PP on 19.03.2012</u></p> <p>In the guidelines, MW is always referred to as MW electric and hence also the MWh or GWh is referred to as electric. Therefore, for thermal energy use an appropriate equivalent needs to be applied.</p>	<p><u>GLC on 16.04.2012</u></p> <p>According to Clarification about the threshold of thermal energy savings in AMS-II.G ^{19/} "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.</p>	

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<p>Description of Findings by the Validation Team</p> <p>(CAR, CR, FAR)</p> <p><i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i></p>	<p>Project Participants Response</p> <p><i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i></p>	<p>GLC Validation Team Assessment / Conclusion</p> <p><i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i></p>	<p>Final Conclusion (OK Closed Out / Not Closed out)</p>
<p>clearly traced back to EB 63, Annex 23 "Guidelines for demonstrating additionality of microscale project activities" (Version 03).</p>	<p>A factor of 3 is used for the conversion of electric to thermal installed capacity and hence the energy output. For determining the threshold for type II project activities a simple calculation is applied based on the installed capacity defined under type I. The 15MW (in this case again electric) installed capacity is multiplied with 4000 hour operation to arrive at 60 GWh (electric). If you need to do this accordingly for thermal energy efficiency, again a factor of 3 needs to be applied.</p> <p>There was also a clarification by the SSC Wg (Clarification F-CDM-SSCwg ver 01 SSC_233) that once again clarified this issue in regards to AMS II.G:</p> <p>"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."</p> <p>Therefore we applied the 1% threshold according to the relevant SSC threshold.</p>	<p>This means for SSC-CPA with energy savings no more than 180 GWh_{th} per year the criteria outlined in Attachment A to Appendix B⁽²⁰⁾ of the Simplified Modalities and Procedures for small-scale CDM project activities will be applied.</p> <p>For micro scale projects the adopted EB 63, Annex 23 "Guidelines for demonstrating additionality of microscale project activities" (Version 03) ^{/9/} shall be applied to CPAs that aim to achieve energy savings at a scale of no more than 20 gigawatt hours per year (equivalent to 60 gigawatt hours thermal per year (60 GWh_{th})).</p> <p>This issue is therefore considered closed out.</p>	<p>OK Closed out</p>

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Description of Findings by the Validation Team (CAR, CR, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Validation Team Assessment / Conclusion <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion (OK Closed Out / Not Closed out)
	The PoA-DD has been amended so that a new footnote (7) on page 11 now clarifies the above issue.		
PoA-CL No. 13 (GLC on 22.02.2012) The Monitoring section in the PoA-DD seems not have been written according to the guide provided in the form. Please kindly make sure each section is written according to the forms.	PP on 19.03.2012 (1st. Round) The Monitoring section in the PoA-DD has been amended to follow the correct ordering in the PoA forms.	GLC on 16.04.2012 (1st. Round) The Monitoring plan in section A.4.4.2 begins with point 8 and it is not clear whether points 1 to 7 are missing or it is just a typo mistake.	OK Closed out
	PP on 05.06.2012 (2nd. Round) The operation and management plan includes steps that relate to the distribution of ICS on the one hand, and the monitoring of emissions reductions post-distribution (ex-post monitoring) on the other. These steps are numbered in the diagram on page 22 and the numbered paragraphs relate to the corresponding steps in the diagram. Therefore, Section A.4.4.1 includes steps 1-7 of the O&M Plan, which related to distribution, while Section A.4.4.2 includes steps 8-13 which relate to ex-post monitoring activities. (It is not a typo).	GLC on 12.06.2012 (2nd. Round) The numbering of the monitoring section refers to the numbering as indicated on the indicated in the schematic "ICS distribution and monitoring plan" in figure 7. This issue is therefore closed out.	
PoA-CL No. 14 (GLC on 16.04.2012) It is mentioned in the PoA-DD that "The design and manufacturing of these stoves at the moment can't be	PP on 05.06.2012 The PoA-DD has been amended such that Section A.4.3 now includes a Technology Barrier		

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<p>Description of Findings by the Validation Team</p> <p>(CAR, CR, FAR)</p> <p><i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i></p>	<p>Project Participants Response</p> <p><i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i></p>	<p>GLC Validation Team Assessment / Conclusion</p> <p><i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i></p>	<p>Final Conclusion</p> <p>(OK Closed Out / Not Closed out)</p>
<p>done in Africa". Clarification is requested as to whether this is a technological barrier or not and whether there is any technology transfer involved.</p>	<p>section, which outlines the issues that prevent the technology to be employed by the proposed PoA from being wholly manufactured in sub-saharan Africa. Unlike the stoves which have typically been distributed in the past under donor-funded programmes, the ICS to be distributed under the CPAs to be included in the PoA are manufactured to quality-controlled specifications, based on years of engineering design work and contain materials which can only be manufactured in certain locations around the world. In particular, the combustion chamber is made of a special type of alloy that can only be manufactured in specialised foundries of which there are a limited number internationally. Technology transfer will occur to the extent that people in SSA countries will gain access to high quality improved cook stoves which are currently not available at an affordable price without carbon finance. However, the direct transfer of the manufacturing of such technology will be limited to the manufacturing and assembly of certain components that can be sourced locally, and will not involve 100% of the technology.</p>		

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Description of Findings by the Validation Team (CAR, CR, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Validation Team Assessment / Conclusion <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion (OK Closed Out / Not Closed out)
<p><u>PoA-CL No. 15 (GLC on 16.04.2012)</u></p> <p>PP is requested to mention and justify any changes, from the PoA-DD for GSC to the final PoA-DD, which were not triggered by any request from the validation team..</p>	<p><u>PP on 05.06.2012</u></p> <p>While addressing the findings raised by the DOE during the validation, a number of additional minor changes were made to the text of the PoA-DD which were not directly triggered by the CARs and CLs. These were typically of the following type:</p> <ul style="list-style-type: none"> • Minor edits of text to improve consistency, clarity of meaning and readability without changing content • Restructured sections of the document without changing content (e.g. In Section E.7.2 the text-based description of the monitoring plan now comes after the parameter tables) • Additional information provided to strengthen existing arguments (e.g. in the additionality section we added information on the experience in Ghana with the Ahibenso stove to support the arguments, and made the affordability 	<p><u>GLC on 12.06.2012</u></p> <p>GLC can confirm that PP has undertaken some editings of some portion of text which were not directly triggered by any findings. However, these editings have got no impact on the project design. Any other editing has been addressed and tracked by a finding.</p> <p>This issue is therefore closed out</p>	<p>OK Closed out</p>

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<p>Description of Findings by the Validation Team (CAR, CR, FAR)</p> <p><i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i></p>	<p>Project Participants Response</p> <p><i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i></p>	<p>GLC Validation Team Assessment / Conclusion</p> <p><i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i></p>	<p>Final Conclusion (OK Closed Out / Not Closed out)</p>
	<p>discussion more focused, with the addition of an estimate of the affordability gap)</p> <ul style="list-style-type: none"> Corrected minor errors or omissions (e.g. Page 4 – added two host countries to the table) <p>Of the changes made, three are more significant:</p> <ul style="list-style-type: none"> Firstly, in the additionality section, we voluntarily introduced a limit of 10 years to the use of the additionality proof for SSC CPAs for greater conservativeness. This is consistent with the approach for use of the f_{NRB} values for ten years, which was a change made in response to the findings relating to f_{NRB}. Secondly, the new stove model included in the CPA-DD following the first round findings (see below 		

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Description of Findings by the Validation Team (CAR, CR, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what is required and why; address the context (e.g. section)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	GLC Validation Team Assessment / Conclusion <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Final Conclusion (OK Closed Out / Not Closed out)
	<p>regarding change to CPA-DD) was added into the PoA-DD. This addition was made simply for consistency between the CPA-DD and the PoA-DD. This stove is known as the CH2300. A rendering of the stove and a certification sheet have been provided.</p> <ul style="list-style-type: none"> • Thirdly, in the monitoring section, an additional parameter was added, which had inadvertently been left out of the GSC version (Stove_{year}). 		

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ANNEX B: CERTIFICATES OF COMPETENCE

PoA Validation Report

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Certificate



Name : Mr. Karunakar Avuram (B. Eng.)
Certificate No. : 023

This document certifies that Mr. Karunakar Avuram, citizen of India, is assigned as CDM assessment team leader, validator/verifier and expert by Germanischer Lloyd Certification GmbH.

Mr. Karunakar Avuram fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
SS 1: Energy Industries (renewable / non-renewable sources)	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	
SS 2: Energy Distribution	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
SS 3: Energy Demand	
TA 3.1: Energy demand	2011-03-14
SS 7: Transport	
TA 7.1: Transport	
SS 10: Fugitive Emissions from Fuels	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
SS 13: Waste Handling and Disposal	
TA 13.1: Waste handling and disposal	
TA 13.2: Animal waste management	

Hamburg

2012-03-19
Date

GLC Management

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Date: 2011-04-27; Tris

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PoA Validation Report

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Certificate



Name : Mr. Fernando Villasana
Certificate No. : 052

This document certifies that Mr. Fernando Villasana is assigned as CDM validator/verifier and reviewer by Germanischer Lloyd Certification GmbH.

Mr. Fernando Villasana fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
SS 1: Energy Industries (renewable / non-renewable sources)	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	
SS 2: Energy Distribution	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
SS 3: Energy Demand	
TA 3.1: Energy demand	
SS 4: Manufacturing industries	
TA 4.1: Cement sector	
TA 4.2: Aluminium	
TA 4.3: Iron and steel	
TA 4.4: Refinery	
SS 5: Chemical industry	
TA 5.1: Chemical process industries	
SS 7: Transport	
TA 7.1: Transport	
SS 8: Mining/mineral production	
TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below	
TA 8.2: Oil and gas industry, coal mine methane recovery and use	
SS 10: Fugitive Emissions from Fuels	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
SS 13: Waste Handling and Disposal	
TA 13.1: Waste handling and disposal	
TA 13.2: Animal waste management	
SS 15: Agriculture	
TA 15.1: Agriculture	
TA 15.2: Animal waste management	

Hamburg

2012-07-26

Date

GLC Management

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Date: 2012-06-04; MN

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PoA Validation Report

GLC Report No. 223, Rev. 11



Certificate



Name : Mr. Georg Zenk
Certificate No. : 56

This document certifies that Georg Zenk, citizen of Germany with experience in Uganda, is assigned as CDM expert by Germanischer Lloyd Certification GmbH.

Mr. Georg Zenk fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
SS 1: Energy Industries (renewable / non-renewable sources)	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	
SS 2: Energy Distribution	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
SS 3: Energy Demand	
TA 3.1: Energy demand	2012-02-06
SS 7: Transport	
TA 7.1: Transport	
SS 10: Fugitive Emissions from Fuels	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
SS 13: Waste Handling and Disposal	
TA 13.1: Waste handling and disposal	
TA 13.2: Animal waste management	

Hamburg

2012-02-06

Date

GLC Management

Germanischer Lloyd Certification
Code: DC-GHG 009_E, Rev. 03
Date: 2011-04-27; Tris

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PoA Validation Report

GLC Report No. 223, Rev. 11



Certificate



Name : Mr. Markus Weber (Dipl.)
Certificate No. : 001

This document certifies that Mr. Markus Weber, citizen of Germany, is assigned as CDM assessment team leader, validator/verifier and expert by Germanischer Lloyd Certification GmbH.

Mr. Markus Weber fulfils GLC's competence requirements to validate and verify CDM projects within the following sectoral scopes and technical areas.

CDM Sectoral Scope (SS) and Technical Area (TA)	Validity date:
SS 1: Energy Industries (renewable / non-renewable sources)	
TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2: Energy generation from renewable energy sources	2011-09-09
SS 2: Energy Distribution	
TA 2.1: Electricity distribution	
TA 2.2: Heat distribution	
SS 3: Energy Demand	
TA 3.1: Energy demand	
SS 7: Transport	
TA 7.1: Transport	
SS 10: Fugitive Emissions from Fuels	
TA 10.1: Mining and mineral processes (excluding those included in TA 10.2)	
TA 10.2: Oil and gas industry, coal mine methane recovery and use	
SS 13: Waste Handling and Disposal	
TA 13.1: Waste handling and disposal	2008-12-15
TA 13.2: Animal waste management	

Hamburg

2011-09-09

Date


GLC Management

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