



VALIDATION REPORT

“Energy Efficiency of Nigeria’s Residential Lighting Stock
by Distributing up to 40 Million Compact Fluorescent
Lamps (CFLs) to Residential Households Connected to
the National Grid”

ICIMI Limited.

Report N° CCL00115/BLN/24012012

Revision N° 02

VALIDATION REPORT

CDM VALIDATION REPORT NO. CCL00115/BLN/2401212 /CPA-1

Project Title: Energy Efficiency of Nigeria's Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid		Country: Nigeria		Estimated CERs (tCO₂e): 28892 Annual Estimated Average	
Client/CME: Icim Ltd. 1,Ropemaker street City Point ,London		Client/CME contact: Ms. Gbemi Cassandra Jayasimi			
Report No.: CCL00115/BLN/24012012		Revision: 02		Date of this report: 30/12/2012	
Technical Reviewer: Vikash Kumar Singh		Date of approval: 31/12/2012			
Approved by (Final Report): Priyesh Ramlall 		Date of approval: 31/12/2012			
GPS coordinates of the PoA(Geographical boundary):		Verified geo-coordinates of Nigeria 7.6219° N, 6.9743° E			
Organisational Unit: Carbon Check (Pty) Ltd					
Report Distribution: <input type="checkbox"/> Unrestricted Distribution <input checked="" type="checkbox"/> Limited Distribution <input type="checkbox"/> No Distribution (without permission from the Client or responsible organisational					
Methodology					
Number: AMS II J		Title: AMS-II.J – Demand-side activities for efficient lighting technologies,		Scale:	
Version: 4				Small <input checked="" type="checkbox"/> Large <input type="checkbox"/>	
				SS(s): 3 TA (s): 3.1	
Carbon Check Pty Ltd., (CCL) is commissioned by "Icim Ltd" (the CME) to perform the validation of the Program of activities "Energy Efficiency of Nigeria's Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid", with regard to the relevant requirements for CDM programme of activities.					
Summary of the PoA Validation and Opinion:					
<input checked="" type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have provided CCL with sufficient evidence for the determination of the PoA's fulfillment of all stated criteria. In our opinion, the PoA meets all relevant UNFCCC requirements for the CDM. Therefore, CCL recommends the PoA for registration by the CDM Executive Board.					
<input type="checkbox"/> The reviews of the project design documentation and the subsequent follow-up interviews have not provided CCL with sufficient evidence for the determination of the PoA's fulfillment of all stated criteria. Therefore, CCL will not recommend the PoA for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board of this decision.					

Validation Team		Role					
Full Name	Appointed for Sectoral scopes (Technical Areas)	Team Leader	Trainee Auditor	Local Expert	Team Member (Auditor)	Technical Expert	Technical Reviewer
Sunil Kathuria	1.1,1.2,2.1 & 4.1	X				X	
Ravi Shankar	1.2,,2.1,2.2,3.1,13.1				X	X	
Adam Simcock	--			X			
Vikash Kumar Singh	1.2,3.1,13.1						X

Validation Phase	Validation Status
<input checked="" type="checkbox"/> Desk Review	<input checked="" type="checkbox"/> Corrective Actions / Clarifications requested
<input checked="" type="checkbox"/> Follow up interviews	<input checked="" type="checkbox"/> Full approval and submission for registration
<input checked="" type="checkbox"/> Resolution of outstanding issues	<input type="checkbox"/> Rejected

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Executive Summary – Validation Opinion

The validation team of Carbon Check (Pty) Ltd. performed the validation of the PoA titled “Energy Efficiency of Nigeria’s Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid” in Nigeria with regard to the relevant requirements for CDM activities.

Standard auditing techniques have been used for the validation of the PoA. An analysis, as provided by the applied methodology, demonstrates that the proposed PoA is not a likely baseline scenario. Emission reductions attributable to the PoA (eligible CPAs of the PoA) are additional to any that would occur in the absence of the proposed eligible CPAs. Given that the PoA is implemented as designed, the CPAs are likely to achieve the emission reductions.

The validation is based on the information made available to Carbon Check (Pty) Ltd., as well as the engagement conditions detailed in this report. The validation has been performed following the VVM requirements.

The validation was executed in the following steps so far:

- Receipt of PoA-DD version 10 dated 24/04/2012_{/01/} g-CPA-DD/02/ (generic) and real case CPA- DD/05/ (without version number and dated Nil) for global stakeholder comments.
- Global stakeholder comment process (26/04/2012 to 25/05/2012)
- On-site visit with stakeholder interviews (01/09/2012 to 03/09/2012)
- Issue of checklist with corrective action requests (CARs) and clarification requests (CLs) and the draft validation report and protocol
- Desk review of revised DDs applying AMS-IIJ (version 4)_{/B04/}
- Review of responses for CARs/CLs
- Issue of the final validation report and protocol

During the course of validation a total of 03 Corrective Action Requests (CARs) and 09 Clarification Requests (CLs) were identified on webhosted PoA-DD /01/. Upon evaluation of responses provided by the Project Participant (CME) all the identified issues were closed successfully.

The single purpose of this report is its use during the registration process as part of the CDM project cycle. In the opinion of Carbon Check (Pty) Ltd., the PoA meets all relevant UNFCCC requirements for the CDM if the underlying assumptions do not change. Carbon Check (Pty) Ltd. thus recommends the PoA to be registered with the UNFCCC.

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Abbreviations

BE	Baseline Emissions
CAR	Corrective Action Request
CC	Cross Check
CCL	Carbon Check (Pty) Ltd
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CFL	Compact Fluorescent Lamp
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CME	Coordinating/managing entity and participants of PoA
CPA	Component project activity
CPA-DD	Component project Activity design document
DR	Document Review
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
I	Interview or any follow up action
ICL	Incandescent Lamp
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PLF	Plant Load Factor
PoA	Programme of Activities
PoA-DD	Programme of Activities design document
PP(s)	Project Participant(s)
Ref	Document Reference
SD	Sustainable Development
SS(s)	Sectoral Scope(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

Icimi Ltd thereafter referred as CME has commissioned Carbon Check (Pty) Ltd, herein after referred to as “Carbon Check”, to carry out the validation of the Programme of Activity “Energy Efficiency of Nigeria’s Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid”^{101/}, hereafter called POA. This report summarizes the findings of the validation of the PoA identified in the PoA Design Document (PoA-DD); the CDM Programme Activity Design Document (CPA-DD) template with generic information relevant to all CDM Program Activities (CPAs) to be included in the PoA; and the associated real case CPA-DD. The validation was performed on the basis of UNFCCC criteria for the PoAs under the CDM, as well as criteria given to provide for consistent programme operations, monitoring and reporting. The term “UNFCCC criteria” refers to Article 12 of the Kyoto Protocol, simplified modalities and procedures for small-scale project activities, the procedures for registration of a programme of activities and the subsequent decisions by the COP/MOP and CDM Executive Board. In addition to these criteria, host country criteria are also taken into account.

1.2 Scope

The validation scope is defined as an independent and objective review of the PoA-DD, CPA-DD template and the real case CPA-DD. The PoA-DD, CPA-DD template and the real case CPA-DD were reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the simplified modalities and procedures for small-scale project activities, the procedures for registration of a programme of activities as a single CDM project activity and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology AMS – IIJ (Version 4)^{104/}.

The validation team has, based on the requirements contained in the Validation and Verification Manual and the procedures for registration of a programme of activities as a single CDM project activity employed a rules-based approach, focusing on the identification of significant risks for programme implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the PoA Managing Entity, CPA Implementer(s) and/or project participant(s) (PP). However, stated requests for clarifications, corrective actions, and/or forward actions may provide input for improvement of the programme design.

2 METHODOLOGY

The validation consists of the following four phases, against §33 of CDM Validation and Verification Manual (Version 01.2)^{101/}:

- I. Publication of the programme design documents (PoA-DD, CPA-DD template and completed CPA-DD) in UNFCCC for global stakeholder consultation;
- II. A desk review of the PoA-DD, CPA-DD template and the associated real case CPA-DD;
- III. On-site visit and follow-up interviews with programme stakeholders; and
- IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The following sections outline each step in more detail.

2.1 Document Review

The following table lists the documentation that was reviewed during the validation.

/01/	CDM-SC-POA-DD, “Energy Efficiency of Nigeria’s Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid” version 1.0 of 24/04/2012/ & Final version 14 dated 28.12.2012 project activity CDM-SC-CPA DD (Generic) version dated nil & Final Version
/02/	Spread sheet EF & ER Calculation.xls version 01 of 24/03/2012 and Final Version dated 12/12/2012/

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/03/	Approval of Feasibility study dated 06/06/2012 by Icimi Ltd.
/04/	Letter of Approval to ICIMI LTD, London -Federal Ministry of Environment, Nigeria, dated 10/10/2011
/05/	Letter of Approval to ICIMI LTD, London –Environment Agency ,UK , dated 23/11/2012
/06/	Confirmation email by UK DNA on issue of LOA dated 03/12/2012
/07/	Internal decision on launching of POA dated 24/05/2011.
/08/	POA Implementation Layout Dated 27/09/2012, Icimi LTD
/09/	CME Management Manual dated 27/11/2012
/10/	Project implementation plan - Icimi LTD
/11/	CER purchase agreement between Icimi Limited and Eneco Energy BV, July 2012
/12/	Nigerian Annual Grid Reports 2004-2008 National Control Centre Osogbo
/13/	Certificate of Incorporation Icimi Limited-Companies House Cardiff dated 21.12.2010
/14/	Memorandum of Understanding between Icimi Limited & Philips Electronic Honking Limited dated 21/09/2012
/15/	Template for investment analysis
/16/	Human capacity building in energy efficiency and renewable energy training, Icimi Ltd.
/17/	CME Monitoring Plan Icimi Limited dated 27/11/2012
/18/	Joint press release on agreement dated 20/07/2012
/19/	Icimi Ltd- Gold standard local stakeholders report dated 05.12.2011
/20/	Icimi Ltd- Gold standard Design Consultation report dated 05.12.2011
/21/	Icimi Ltd-Invitation tracking table POA & Local Stakeholders Consultation
/22//	List & contacts of invitees for Gold Standard Stakeholder Consultation for 05.01.2012 meeting
/23//	Icimi Ltd- List of participants attending the Stakeholder dated 05.12.2011
/24/	Non-technical summary in local dialect,- Icimi Ltd, 12/11
/25/	Participants Evaluation Forms- Stakeholder participants 05.01.2012
/26/	Participation of stakeholder list 05.01.2012
/27/	Icimi Ltd- Newspaper Clipping inviting for Stakeholder consultation. 30.12.2011
/28/	Philips CFL Data Sheet
/29/	Prior consideration form dated 31/05/2012
/30/	Modalities of communication
/31/	Confirmation of non-receipt of ODA funds dated 25/04/2012 Icimi.

Background investigation and other referred documents/websites:

Reference No.	Documents
/B01/	CDM Executive Board: Validation and Verification Manual, version 01.2. EB 55 Annex 1 of
/B02/	CDM Executive Board: Guidelines for completing the project design document form for small-scale CDM project activities (version 01.0) EB 66, Annex. 09
/B03/	CDM Executive Board: Guidelines for completing the programme design document form for small-scale CDM programmes of activities (version 01.0) EB 66, Annex. 13
/B04/	Energy Efficiency improvement project AMS IIJ version 04, EB 54 Annex 6 dated 28.05.2010
/B05/	CDM Executive Board- "Tool to calculate emission factor for an electricity system" version 2.2
/B06/	<p>CDM Executive Board:-Guideline for Assessment of additionality of small scale Project activity EB 68 Annex 27</p> <ol style="list-style-type: none"> EB 63 Annex 24 "Attachment A of Appendix B" v.8 Attachment A to Appendix B of the simplified modalities and procedures for small scale CDM activities PoA Specific guidelines / standards published by UNFCCC CDM programme of activities design document form (CDM-SSC-PoA-DD) Version 01, EB 33 CDM programme activity design document form (CDM-SSC-CPA-DD)Version 01,EB 33 Annex 44 Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission Reductions for a programme of activities, Version 04.1, EB 55 (Annex 38) Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, version 01, EB 65 (Annex

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	<p>03)</p> <p>g) Guidelines on demonstration and prior consideration of CDM”, version 04, EB 62 (Annex 13)</p> <p>h) Standard for sampling and surveys for CDM Project Activities and PoAs, version 03.0, EB 69 (Annex 4)</p> <p>i) Guidelines for sampling and surveys for CDM project activities and programme of activities, version 02.0 EB 69 (Annex 5)</p> <p>j) Guidelines on assessment of de-bundling for SSC project activities, Version 03, EB 54 (Annex 13)</p> <p>k) Guidelines on the demonstration of additionality of small-scale project activities, version 09.0, EB 68 (Annex 27)</p> <p>L) Procedures for modalities of communication between project participants and the executive board, version 01, EB 45 Annex 59</p> <p>m) Procedures for processing and reporting on validation of CDM project activities, version 03, EB 50 Annex 48.</p> <p>n) UNFCCC www.unfccc.int</p> <p>o) CDM Executive Board: Glossary of terms, Version 07</p>
/B07/	<p>Nigerian Power Sector Reforms & Privatisation - Director General, Bureau of Public Enterprises Bolanle Onagoruwa</p> <p>http://www.sec.gov.ng/files/Bolanle%20Onagoruwa%20Presentation%20to%20DG%20SEC.pdf</p>
/B08/	<p>http://www.scribd.com/doc/116663883/From-Incandescent-Lamps A Report on CFL in Nigeria by E.A.Umoh</p>
/B09/	<p>http://www.bbc.co.uk/news/world-africa-17015873 BBC News on Africa</p>
/B10/	<p>http://www.ng.undp.org/energy/EE-project-document.pdf. UNDP report on CFL Project</p>
/B11/	<p>http://www.gvepinternational.org/en/community/resources/undp-gef-launches-energy-efficiency-project-climate-change-benefit-nigeria GVEP international Report on UNDP-CFL-Project</p>
/B12/	<p>http://www.credcentre.org/Publications/EE%20Survey%20Nigeria.pdf - Energy Efficiency Survey, Nigeria</p>
/B13/	<p>http://www.oecd.org/environment/climatechange/37671771.pdf Barriers to Diffusion to CFL technology.</p>
/B4/	<p>http://www.reuters.com/article/2012/02/13/us-nigeria-poverty-idUSTRE81C0KR20120213- A press report on Poverty in Nigeria</p>
/B15/	<p>http://www.worldbank.org/en/country/nigeria/overview Nigeria Overview by World Bank</p>

The changes between the PoA-DD_{1/1} (Version 10 dated 24/04/2012) published for the 30 days stakeholder commenting period and the final version₁₄ of POA-DD_{1/01} dated 28/12/2012 submitted for registration are addressed in the table 2 and 3 of the validation protocol as a part of this report.

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The main changes between the PoA-DD, version 10 /01/ published for the 30 days stakeholder commenting period and the final version /03/ submitted for registration are presented in the below table as follows:

Topic	PoA DD – GSC/01/ Version 10 Dated 24/04/2012	Final PoA DD/01/ Version 14 dated 28/12/2012	Validation Assessment
POA Title/ Location	Energy Efficiency of Nigeria's Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid/ Nigeria	Energy Efficiency of Nigeria's Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid/ Nigeria	No change
CME/PP	Icimi Ltd.	Icimi Ltd.	No change
Parties	Nigeria and United Kingdom Both were mentioned as Party	Nigeria	PDD has been revised and corrections have been validated
Methodology / Activity	AMS IJ Version 4	AMS IJ Version 4	No change
Amount of emission reductions (tCO ₂)	Quantification of ERs at PoA level is not required as per the PoA-DD template.	Quantification of ERs at PoA level is not required as per the PoA-DD template.	No change
PoA starting date	01/12/2012	01/03/2013 or the date of registration of POA	
Real case CPA starting Date	01/12/2012	01/03/2013 or the date of registration of POA	Start date of CPA has changed It has been changed due to UN interface requirement of starting date of SSC-PoA should be minimum 4 weeks later than date of submission for registration.
PoA Location	Nigeria	Nigeria	No change

2.2 Follow-up actions

In order to reach to a Validation Opinion a site visit along with an interview was planned for 01/09/2011.-03/09/2011 This is in conformity with §33 (b) of Validation and Verification Manual, version 1.2/^{B01/}. Prior to the interview salient points to be discussed were planned. Date of interview, interviewee and points discussed are given in the following table.

	Date	Name and Role	Organization	Topic
/a/	01 -03 Sep, 2012	Cassandra Jayesimi Managing Director	Icimi Limited	Project Planning & Management CPA planning Site Visit

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/b/	01-03 Sep, 2012	Aliu Balogun Legal Consul & Country Coordinator	Icimi Nigeria Limited	Project Planning CPA planning
/c/	01 Sep, 2012	Marvin U Etsano Auditor	Icimi Nigeria Limited	Distribution & Implementation Framework, Operation & management, Monitoring
/d/	01 Sep, 2012	Lawrence Umucthele Auditor	Icimi Nigeria Limited	Distribution & Implementation Framework, Operation & management, Monitoring
/e/	01 Sep, 2012	S. Anipole , Chairman	Local Government of Ikorodu	Stakeholder Consultation Local Government Support
/f/	01 Sep, 2012	Owolobi Hameed Supervisor for Health	Local Government of Ikorodu	Stakeholder Consultation
/g/	01 Sep, 2012	Adepoju Omowuniti Administrator	Local Government of Ikorodu	Stakeholder Consultation
/h/	01 Sep, 2012	Dolice	Chairman's office	Stakeholder Consultation
/i/	01 Sep, 2012	Akindji hamed Driver	Local Government	Stakeholder Consultation
/j/	01 Sep, 2012	Hon. Suwala Bade	Agriculture	Stakeholder Consultation
/k/	01 Sep, 2012	Yusuf Personal Assistant	Chairman's office	Stakeholder Consultation
/l/	01 Sep, 2012	Ajenifieja. A -Elder	Ikorodu City	Stakeholder Consultation
/m/	01 Sep, 2012	Prophetess Elizabeth -Clergy	Ikorodu City	Stakeholder Consultation
/n/	01 Sep, 2012	A.O.Saiyesimi -Stakeholder	Ikorodu City	Stakeholder Consultation

Cross checks were made with the information provided in PoA-DD_{/01/} and the information provided by interviewed personnel. Validation Team considered the views obtained in these interviews while arriving at Validation Opinion.

2.3 Resolution of outstanding issues

The objective of this phase of the validation is to resolve any outstanding issues, which need be clarified prior to Carbon Check's conclusion on the PoA design. In order to ensure transparency a validation protocol is customised for the programme. The protocol shows in transparent manner criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM-PoA is expected to meet;

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- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below. The completed validation protocol for the PoA is enclosed in Appendix A to this report.

Findings established during the validation could either be seen as a non-fulfilment of CDM criteria or where a risk to the fulfilment of programme objectives is identified. Corrective action requests (CAR) are issued, where:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The CDM requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.

A request for clarification (CL) may be raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

A forward action request (FAR) may be raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity.

This conforms with § 35 to 37 of validation and verification manual, version 01.2 /B01/

Checklist Question	Ref.	MoV	Comments	Draft Conclusion	Final Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in seven different sections.	Makes reference to documents where the answer to the checklist question or item is found.	Explain how conformance with the checklist question is investigated. Examples are document review (DR), interview or any other follow-up actions (I), cross checking (CC) with available information relating to projects, (N/A) means not applicable.	The discussion on how the conclusion is arrived at and the conclusion on the compliance with checklist question so far.	OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements. For CAR, CL and FAR see the definitions above.	OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements.

Corrective action requests and/or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
The CAR and/or CLs raised in table 2 are repeated here.	Reference to the checklist question number in Table 2 where the CAR or CL is explained.	The responses given by the project participants to address the CARs and/or CLs.	The validation team's assessment and final conclusion of the CARs and/or CLs.

Forward action request	Reference to Table 2	Response by project participants	Validation Conclusion

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The FAR raised in table 2 is repeated here.	Reference to the checklist question number in Table 2 where the FAR is explained.	Response by the project participants on how forward action request will be addressed prior to first verification
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2.4 Internal quality control

Before the assessment begins, members of the team covering the technical area(s), sectoral scope(s) and relevant host country experience for evaluating the SSC-CDM-PoA/CPA are appointed. The validation report including the validation findings underwent a technical review. A technical reviewer qualified in accordance with Carbon Check's qualification scheme for CDM validation and verification performed the technical review.

2.5 Validation team and the technical reviewer(s)

The validation team and the technical reviewers consist of the following personnel:

Validation Team		Type of Involvement						
Full Name	Appointed for Sectoral scopes (Technical Areas)	Supervision of work	Desk review	Site visit & Interview	Report & protocol writing	Technical Expert Input	Reporting support	Technical Reviewer
Sunil Kathuria	1.1,1.2,2.1 & 4.1	X	X	X	X	X	X	
Ravi Shankar	1.2,,2.1,2.2,3.1,13.1			X				
Adam Simcock	Local Expert			X				
Vikash Kumar Singh	1.2,3.1,13.1							X

3. VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

During the course of validation a total of 03 Corrective Action Requests (CARs) and 09 Clarification Requests (CLs) were identified on webhosted PoA-DD_{/01/}. Upon evaluation of responses provided by the Project Participant (CME) all the identified issues were closed successfully.

The issues raised, PP response and the assessment by validation team are included in Table 2 and Table 3 of Appendix A of validation protocol.

The final validation findings relate to the programme design as documented and described in the PoA-DD_{/01/} and g-CPA-DD_{/01/}.

3.1 Approval and Participation

The below table summarizes the project participants and party involved. The validation team received letter of approval for Host party from the CME of the PoA_{/04/}. & since the CME is based in United Kingdom the Letter of Approval from United Kingdom was also submitted to DOE. The copies of the LoAs_{/04 /05/} have been verified against the original LoA_{04 /05/} issued by the host country DNA. The contents of the LoAs_{04 /05/} and the signature of the authorised issuer were also compared with those of other approval cases issued by the host country DNA. In addition an email confirmation was also received from Annex-I DNA. Therefore, the team has confirmed the authenticity of the letter issued. This LoA_{04 /05/} is therefore regarded as valid and meeting the CDM requirements.

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The Validation Team can confirm that issued LoAs refers to the precise proposed PoA title as in the PoA-DD_{/01/} and g-CPA-DD_{/01/}. The Validation Team can confirm that the project participant, i.e. CME is listed in tabular form in section A.3 of the PoA DD/03/ and this information is consistent with the contact details provided in Annex 1 of the PoA-DD/03/. The letter of approval was also found to be unconditional with respect to paragraph 45 (a) to (d) of VVM, version 01.2 /B01/. And hence the LoA is in accordance with paragraphs 45 - 48 of VVM, version 01.2 /B01/. The LoA_{/07/}, is checked and found in compliance of CDM requirements including requirements of PoA vide § 8, 9 and 10 of annex 38 EB 55/B38/.

The below table summarizes the project participants and parties involved:

Project Participants	Icimi Ltd.	Icimi Ltd.
Party Involved	United Kingdom of Great Britain and Northern Ireland	Nigeria
Approval		
LoA Received	Yes	Yes
Date of LoA	23 rd November 2012	10 th October 2011
LoA received from	Environment Agency UK _{/04/}	Federal Ministry of Environment, Mabushi _{/05/}
Approval Number	EA/ICIMILtd/01/2012	FMENV/ SCCU/ 245 1
Validation of Authenticity	An email confirmation has been received from the Agency.	Compared with other approval letters of the Registered projects
Validity of LoA	No end Date is mentioned	No end Date is mentioned
Participation		
Party is party to the Kyoto Protocol	Yes	Yes
Voluntary participation	Yes	Yes
Diversion of Official Development Assistance (ODA) towards host country	No	No
Project contribution to Sustainable Development	Yes	Yes

At the time of validation site visit the LOA_{/05/} was not available from United Kingdom, hence a CL-2 was Raised.

Validation of ODA

The proposed project does not involve any public funding from an Annex I Party, and the validation did not reveal any information that indicated that the project could be seen as a diversion of official development assistance (ODA) funding towards the Host Country.

The validation did not reveal any evidence that this PoA can be seen as a diversion of ODA. It is also confirmed from the letter provided by CME_{/31/} about no ODA diversion from Annex-I party in the development of the PoA.

Confirmation of Modalities of Communication (MoC)

The project Modalities of Communication (MoC)_{/30/} signed on 30/12/2012 was received from the CME. As required in Procedures for Modalities of Communication between Project Participants and the Executive Board, the Validation Team has verified the names of authorised signatories for future communication related to the corresponding scope of authority with UNFCCC from the Host country project participant. The Validation Team can confirm that the signatory and contact details on the MoC are authorized and credible. The MoC has been directly received from the CME. CME has nominated focal points in the Modalities of Communication as per § 2, 3 and 5 of "Procedures for modalities of

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communication between project participants and the executive board”, EB 45 Annex 59/B04-11/. The primary signatory for the entity “Icimi Ltd” is Gebmi Cassandra Jeyesimi.

3.2 Programme of Activities Design Document

The PoA-DD and the g-CPA-DD template are in compliance with relevant form and as provided by UNFCCC. The applicable versions of the forms are used. Validation team confirms that the guidelines for the completion of the PoA documents (as contained in the DD form itself) in their most recent version have been followed. Relevant information was provided by the Managing entity and/ or project participants in the applicable PoA sections. Validation team further confirms the consistency between PoA-DD_{/01/} and the g-CPA-DD_{/01/} to be used for inclusion of a CPA in the registered PoA, this confirms to the requirement of § 15 (d) of EB 55 annex 38/_{B06-f/}.

3.3 Programme Description

The “Energy Efficiency of Nigeria’s Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid” (here in after referred as the “PoA”) is promoted by the Coordinating and Managing Entity (CME) “Icimi Limited.

The programme will reduce greenhouse gas (GHG) emissions by replacing existing and predominant use of Incandescent lamps with installation of Compact Fluorescent Lamps (CFL) lamps in Nigeria. The proposed Programme of Activities (PoA) seeks to promote energy efficiency in Nigeria by replacing incandescent light bulbs used in most grid-connected households in the country to energy efficient alternative, CFLs. These energy saving CFLs will benefit communities and the nation as a whole, result in energy conservation that will reduce households and Federal Government electricity spending, and abate greenhouse gas emission. This has been confirmed from the Letter of Approval provided by the PP/_{04/05/}. According to the description provided in PoA-DD_{/01/}, validation team confirms that the PoA is a voluntary action by the CME and, this also confirms to the requirement of § 4 of EB 55 annex 38/_{B06-f/}. There are no mandatory legislative or regulatory policies mandating the use of CFL lamps within the PoA boundary Nigeria. This has also been confirmed based on interview with CME. The stated goal of the PoA is to increase dissemination of CFL lighting technology available to households and SMEs.

The baseline scenario involves usage of is the continuation of the current practise in Nigeria whereby households will continue to use conventional and inefficient incandescent light bulbs. Baseline literature_{/B12/ B13/B14/}, provides a view of prevalent conditions in Nigeria.

Project lamps in the PoA consist of self-ballasted compact fluorescent lamps (CFLs)_{/28/} to replace incandescent lamps in grid connected households in Nigeria. The implementation framework of the PoA involves can distribute CFLs and replace used incandescent light bulbs via one or more of the following methods:

- Direct installation of CFLs at each grid-connected residential household in exchange for an equivalent number of incandescent light bulbs. Exchanged incandescent light bulbs will be collected at the time of CFL installation; and/or
- Door-to-door distribution to each household (where direct installation is not possible) and collection of equivalent number of incandescent light bulbs at the time of CFL distribution;
- CFL distribution and incandescent light bulb collection can take place via a dedicated distribution point advertised in the local media by SSC-CPA implementer

CPAs included in the PoA will sell or distribute project lamps to replace the use of incandescent lamps. The technical specifications of the project lamps distributed in the PoA shall meet the requirements specified in the methodology according to the type of project lamp chosen, option 1 or 2 as per § 11 and 12 of the methodology, AMS-II J, version 4 _{/B04/}. A typical Project Lamp is Compact fluorescent Lamp with non-removable self ballast as confirmed through the data sheet_{/28/}. Validation team confirms that the PoA-DD_{/01/}, transparently describes a typical CPA that will be included in the PoA covering the technology or measures to be used, justification of the choice of an approved baseline and monitoring

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methodology i.e. AMS-II J., version 04/B04/, this also confirms to the requirement of § 6(f) of EB 55 annex 38/B04-3/.

Coordinating/managing entity has opted for a verification method that does not use sampling but verifies each CPA separately Each CPA project lamps has been designed to determine the percentage of project lamps distributed to end-users that are operating and in service; such monitoring will take place starting at the end of First year and will be repeated in Fourth & Seventh Year of crediting period.

A 90/10 confidence/precision level for sample size calculation for a survey to determine the number of operational project lamps shall be used.

Emission reduction claimed shall be limited to 6 CFLs for each household. The project CFLs shall be distributed or sold to households only.

The proposed PoA does not involve the transfer of technology and know-how from the Annex 1 countries for the CPAs implemented.

As per the PoA-DD_{/01/} and on-site interviews it was confirmed that there are there are no mandatory requirements in Nigeria stipulating any individual to use project CFLs in households The PoA is a voluntary action by the CME. There are no policies mandating use of CFLs in the PoA boundary, i.e. Geographical boundary of Nigeria. CAR-1 & CI-1 were raised in this regard and has been addressed. This confirms to the requirement of §6 (b) of EB 55 annex 38.

From the site visit interviews and desk review of PoA-DD_{/01/} and other associated template documents, it is revealed that this programme does not involve any ODA funding. Thus, the validation team considers that no ODA funding from any Annex 1 country has been involved under this programme. This is further confirmed by the undertaking _{/31/} provided by the CME.

As per the PoA-DD/03/, the starting date of the PoA in the PoA-DD/03/ is 01/03/2013 or date of registration, whichever is later. The length of the PoA is taken as 28 years. The starting date of the validation of the PoA is 26/04/2012 i.e. the date the PoA was published for GSC. In the PoA DD_{/01/} and g-CPA-DD_{/01/}, it has been confirmed that no CPA shall be applicable for the inclusion in the PoA if the start date is before the start of validation. This is in conformity with the § 7(d) of annex 38 of EB 55 /B08/. A clarification request CL-3 was raised regarding procurement plans for the lamps.

CPA Description

Carbon Check confirms that the description of the proposed CDM program of activity, as contained in the POA-DD & CPA-DD sufficiently covers all relevant elements, is accurate and complete and that it provides the reader with a clear understanding of the nature of the proposed CDM project activity.

3.4 Eligibility Criteria for CPA Inclusion

Review of PoA-DD _{/01/}, CPA-DD template _{/01/} and on-site interview with representatives of CME reveals that the CME of the PoA employs clear and unambiguous criteria for the inclusion of the CPAs. The eligibility criteria have been stated and validation team confirms the eligibility criteria are in line with requirement of § 14, annex 3 of EB 65 /B04-5/. Additionality and applicability of the applied methodology are the eligibility criteria as per the PoA DD, which is deemed appropriate and acceptable to the validation team. CL-9 has been raised in this regard and addressed. This also confirms to the requirement of the § 15(b) of EB 55 annex 38_{B06-g/}. The eligibility criteria can be checked at the CPA level by the CME and shall be confirmed by the DOE before inclusion of the CPAs in the PoA.

SI. No.	Eligibility criteria description in PoA-DD/03/ and Generic-CPA-DD	Information/document required as listed in the PoA-DD/03/ and Generic-CPA-DD	Assessment by the validation team
1	CFLs distributed/installed by the SSC-CPA will be to grid-connected residential households within the	The following documents shall be provided:	At the time of inclusion request of any proposed CPA, CME shall check

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	geographical boundary of Nigeria;	<ul style="list-style-type: none"> GPS co-ordinates of project activity within CPA 	<p>the GPS co-ordinates of the CPA and DOE who will be performing validation shall confirm by the means of the description of the project boundary in CPA-DD to confirm the geographical boundary of CPA. This is acceptable.</p>
2	<p>Procedures to avoid double counting shall be clearly defined in accordance with AMS ILJ version 4:</p> <ul style="list-style-type: none"> SSC-CPA will ensure that there is no other registered and operating SSC-CPA or CDM project concern with the distribution of energy efficient lighting bulbs within the specified geographical location/area; SSC-CPA implementer shall cede all rights over the CERs generated by the SSC-CPA to the CME, Icimi Ltd, under a contractual agreement 	<ul style="list-style-type: none"> The following documents shall be provided: Project lamps distributed shall have a unique identification for CPA marked on project CFL to uniquely identify the CFL with the PoA and with the CPA. There will be a unique numbering system or each CPA 'The CPA Implementing entity shall sign a contract with the CME confirming the "Inclusion of the contracted CPA in the PoA & CPA process. Self-declaration from the CME that "The CPA has not yet been included in another Programme of Activities or has not yet been registered as a single CDM Project activity." 	<p>At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check.</p> <p>This is done to avoid the double counting of the project activity.</p> <p>This is acceptable.</p>
3	Each CFL will meet lumen output requirements in accordance with the relevant national or international standards/values or as detailed in Table 1 AMS II.J, Version 4, and rated average life of CFL shall meet the requirements of IEC 60969 or an equivalent national standard	Each CPA will submit documentation/certifications to the CME in this regard and the CME will record and store the information for validation and monitoring purpose. Documents shall include: Certificates from Manufacturer or;	<p>At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check.</p> <p>This eligibility criterion will ensure that the CPAs</p>

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		Certificates from 3rd Party accredited laboratory	meet applicability conditions of the methodology AMS IIJ and ensure rated average life of CFL shall meet the requirements of IEC 60969 or an equivalent national standard /B04/
4	SSC-CPA shall confirm that the start date of the SSC-CPA is not prior to the commencement of validation of the programme of activities, i.e. the date on which the CDM-PoA-DD is first published for global stakeholder consultation	The CPA operator will provide documentary proof (such as invoices, receipts or warranty cards) that the order was placed for the project CFLs to the CME and the CME will record the start date of the CPA and confirm that a document check has been done.	At the time of inclusion request of any proposed CPA, CME shall submit the mentioned documents to the DOE who will be performing validation for the consistency and integrity check. This eligibility criteria will ensure CPA start date of should not be before start date of validation as required by §7(d) of annex 38, EB 55 /B06/.
5	SSC-CPA will conform to the PoA and follows the baseline and monitoring methodology AMS-II.J version 4;		At the time of inclusion request of any proposed CPA, CME shall submit the documents mentioned to the DOE who will be performing validation for the consistency and integrity check. This eligibility criterion will ensure the applicability condition of AMS – IIJ (Version 04) /B04/ to the proposed CPAs of the PoA.
6	SSC- CPA shall comply with the additionality test described in Section E.5. of this report;	The CPA operator shall provide all the information with proper supporting and proofs as described in section E.2 of the PoA. The following documents shall be provided: <ul style="list-style-type: none"> • Declaration from CME that CPA meets the applicability criteria. • Technical specification 	At the time of inclusion request of any proposed CPA, CME shall submit the documents mentioned to the DOE who will be performing validation for the consistency and integrity check. This eligibility criterion will ensure the applicability condition of AMS – IIJ (Version 04) /B04/ to the proposed CPAs of the PoA.

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		<ul style="list-style-type: none"> from the manufacturer of the CFLs Certificates from Manufacturer or; .Certificates from 3rd Party accredited laboratory 	
7	SSC-CPA shall declare in writing that no public funding (ODA) from Annex I parties will be used in the SSC-CPA, if public funding is received by SSC-CPA under the PoA, the SSC-CPA will affirm that such funding does not result in diversion of ODA and is separate from and is not counted towards the financial obligations of those parties	<p>The following documents shall be provided:</p> <ul style="list-style-type: none"> Declaration on non-involvement of ODA in PoA by CME Declaration on non-involvement of ODA in CPA by CPA implementer 	CME to check the confirmation before its approval for inclusion
8	SSC-CPA shall distribute/install CFLs via one or more of the following methods: direct installation at participating households, door-to-door distribution at participating households, CFL collection from distribution points/centres advertised in the local media by SSC-CPA implementer;	Each CPA will submit an implementation Plan on how the lamps will be distributed in the boundary of CPA and how it will be communicated to the residents	CME to give the confirmation before its approval for inclusion
9	SSC-CPA shall confirm that 100% of the SSC-CPA will be monitored according to the procedures in A.4.4.2 and sampling methodology shall follow the procedure in Annex 4 of the POA-DD;	A written confirmation by CPA will be obtained that Monitoring will be carried out as per CME Manual & Monitoring Manual	CME to check the confirmation before its approval for inclusion
10	SSC-CPA shall confirm CPA in aggregate meets the small-scale or micro-scale threshold and will not exceed those thresholds throughout the crediting period of the CPA;	<p>The following documents shall be provided:</p> <p>Emission reduction sheet</p>	CME will; check the estimated calculation numbers and type of lamps plan to be distributed and confirm that the project will remain in threshold
11	SSC-CPA will meet the de-bundling rules set out in EB 54, Annex 13, Guidelines for Assessment of De-bundling for SSC Project Activities (Version 3);	<p>The following documents shall be provided:</p> <ul style="list-style-type: none"> •Declaration from the CME •Declaration from the CPA implementer •A detailed description of debundling check in section A.4.6 of CPA-DD 	At the time of inclusion request of any proposed CPA, CME shall check the same and the DOE who will be performing validation for the consistency and integrity check will confirm it. This eligibility criterion ensures that the SSC-PoA meets the

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		•Emission reduction sheet with calculations f	requirement of debundling test.
12	SSC-CPA is not registered, or is being registered, as a stand-alone CDM project or as part of another PoA other than the proposed project;	CPA implementer will give a written confirmation in this regard	CME to check the confirmation before its approval for inclusion
13	If SSC-CPA implementer is outsourced, contractual agreement signed between Icimi Ltd and SSC-CPA implementer;	CPA implementer will submit a copy of agreement	At the time of inclusion request of any proposed CPA, CME shall check the same and the DOE who will be performing validation for the consistency and integrity check will confirm it. CME to ensure that contract does not dilute any of the other eligibility criteria.
14	SSC-CPA shall meet the requirements set out in the Gold Standard passport and Gold Standard stakeholder consultation report.	CPA implementer must submit the confirmation in this regards	CME to check the confirmation before its approval for inclusion

Validation team has checked the CME Management Manual ^{/09/} and based on these documents and on-site interview with personnel involved at the CME end, validation team confirms that the CME has competencies to check the features of potential CPAs of PoA and also have competency to check that each CPA meets all requirements and eligibility criteria before submission to the DOE for the inclusion. The CME will confirm that all criteria are met by checking all the supporting evidences provided by the CPA implementer. Based on above validation team confirms the compliance of § 14 -15 of annex 3 of EB 65 ^{/B06-g/}.

3.5 Operation and Management Plan

A clear and transparent description of the operational and management arrangements have been established by the management/coordinating entity in CME Management Manual^{/09/} and stated in the section A.4.4.1 of PoA-DD^{/01/}. The roles and responsibilities of CPA implementer and CME have been distinctly defined. A complete working flow diagram is available too.

- a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies;
- b) Records of arrangements for training and capacity development for personnel;
- c) Procedures for technical review of inclusion of CPAs;
- d) A procedure to avoid double counting (e.g. 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);
- e) Records and documentation control process for each CPA under the PoA;
- f) Measures for continuous improvements of the PoA management system;

By reviewing this validation team confirms that the CME have the competencies to check the features of potential CPAs and can ensure that each CPA meets all requirements and eligibility criteria before inclusion in the registered PoA. Based on above, validation team confirms the compliance of following, in the management system of CME^{/09/} (in line with the requirement of §17 annex 3 of EB 65 /B04/):

In order to avoid double counting an undertaking would be provided by the CPA implementer (operator) to the CME. This contractual arrangement would cover following points to avoid double counting of CPAs:

1. The operator is aware and agreed that the Project activity is included in the present PoA.

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2. The operator undertakes that no emission reduction benefit from the Project shall be claimed by it through any other instrument either as a standalone Project or through bundle or as a CPA to any other PoA.

This is in line with the eligibility criteria provided for the inclusion of CPAs. CL- 9 was raised in this regard and has been addressed.

Debundling check would be done at each CPA level. As per § 10 of EB 54 Annex 13/B04-9/, 'Guidelines on Assessment of debundling for SSC project activities', a debundling check is not required *"If each of the independent subsystems/measures (e.g., biogas digester, solar home system) included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check i.e., considering as not being a de-bundled component of a large scale activity"*, as the independent sub-systems in this case will generate x ktCO₂e per year and if x will be lesser than 600 tCO₂e per year (1% of small-scale threshold, 60000 tCO₂e) then the CPA would be exempted from debundling check. CAR 11 was raised in this regard and has been addressed.

Based on above it can be confirmed that the CME would be able to ensure that no double counting occurs. Also, since as each CPA is uniquely identified by the unique CPA number, the CME can check whether a CPA under the PoA is already a registered CDM project or CPA in another PoA from the UNFCCC website. In this regard CME will also seek an undertaking from the CPA implementer.

Based on above validation team confirms to the requirement of the §6 (i) and § 15(c) of EB 55 annex 38/B06-g/.

3.6 Monitoring Plan

The PP has selected to verify each CPA independently and not use sampling for the CPA verification. Each CPA is identified by a unique identification number as provided in PoA-DD₀₁/, this would ensure that no double accounting occurs and that the status of verification can be determined anytime for each CPA. The project database will be updated on a regular basis allowing the status of the CPA to be verified at any time/09/. This is in line with the requirements of §6(i) and §6(k) of EB 55 Annex 38/B08/.

CME has opted for unique identification system for each CPAs projects lamps for Option and lamps sold in CPA will have the following details

- Manufacturer's name or Logo
- Unique serial number pertaining to the particular SSC-CPA
- Icimi Ltd name or Logo and where applicable, a 'Not For Sale or Resale' sign
- The applicable Standard

The validation team through document review and interviews with the relevant personnel has reviewed the procedures. The information provided has allowed the validation team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME of the PoA and the CPA implementer.

Review of monitoring plan provides a transparent system to ensure that no double counting occurs and that the status of verification can be determined any time for each CPA. and the status of verification shall be determined by project database.

The main roles and responsibilities and the general scheme of monitoring plan has also been indicated in the PoA-DD₀₁/

The description provided in the PoA-DD₀₁/ on the operational and management arrangements were confirmed based on document review and through on-site interviews

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3.7 Baseline and monitoring methodology

Applicability of selected methodology

Criteria of methodology AMS-II.J Requirements	Justification in PoA-DD/03/ and g-CPA-DD/04/	Assessment by the validation team
Applicability of selected methodology		
<p>This comprises activities that lead to efficient use of electricity through the adoption of self-ballasted compact fluorescent lamps (CFLs) to replace incandescent lamps (ICLs) in residential applications. Eligible self-ballasted CFLs have integrated ballasts as a non-removable part. The CFLs adopted to replace existing equipment must be new equipment and not transferred from another activity.</p>	<p>The SSC-CPA will employ quality long life self-ballasted (integrated) compact fluorescent lamps (CFLs) as replacement for incandescent lamps in residential households. A self-ballasted CFL is an integrated lamp-ballast combination consisting of a gas-filled tube, and electronic ballast;</p>	<p>Each CPA will ensure that CFL given as replacement only to residential household . Is an integrated assembly, which cannot be separated</p>

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<p>The total lumen output of the CFLs used will be equal to or more than that of the ICL being replaced. Lumen output of ICL & CFL shall be determined in accordance with relevant national or international standard Values in Table 1 may be used as an alternative option to such standards. If a lamp wattage is not in Table 1, linearly interpreted value shall be used to determine the minimum light output requirements e.g., 493 Lumens for a 45 W lamp.</p> <table border="1" data-bbox="252 651 639 1339"> <thead> <tr> <th colspan="3">Table 1 AMS-II.J version 4 Light Output Requirements</th> </tr> <tr> <th>Baseline Technology – Incandescent Lamp (Watt)</th> <th>Minimum Light Output (Lumen)</th> <th>Compact Fluorescent Lamps (*Watts)</th> </tr> </thead> <tbody> <tr><td>25</td><td>230</td><td>5-7</td></tr> <tr><td>40</td><td>415</td><td>9-11</td></tr> <tr><td>50</td><td>570</td><td>11-12</td></tr> <tr><td>60</td><td>715</td><td>13-15</td></tr> <tr><td>75</td><td>940</td><td>17-18</td></tr> <tr><td>90</td><td>1,227</td><td>18-19</td></tr> <tr><td>100</td><td>1,350</td><td>20-23</td></tr> <tr><td>150</td><td>2,180</td><td>37-39</td></tr> <tr><td>200</td><td>3,090</td><td>50-55</td></tr> <tr> <td colspan="3">* This range is for indicative purposes only. The actual installed CFL wattage may be outside of this range</td> </tr> </tbody> </table>	Table 1 AMS-II.J version 4 Light Output Requirements			Baseline Technology – Incandescent Lamp (Watt)	Minimum Light Output (Lumen)	Compact Fluorescent Lamps (*Watts)	25	230	5-7	40	415	9-11	50	570	11-12	60	715	13-15	75	940	17-18	90	1,227	18-19	100	1,350	20-23	150	2,180	37-39	200	3,090	50-55	* This range is for indicative purposes only. The actual installed CFL wattage may be outside of this range			<p>Each CFL will meet lumen output requirements in accordance with the relevant national or international standards/values or as detailed in Table 1 AMS II.J, Version 4, below;</p> <table border="1" data-bbox="799 383 1187 1099"> <thead> <tr> <th colspan="3">Table 1 AMS-II.J version 4 Light Output Requirements</th> </tr> <tr> <th>Baseline Technology – Incandescent Lamp (Watt)</th> <th>Minimum Light Output (Lumen)</th> <th>Compact Fluorescent Lamps (*Watts)</th> </tr> </thead> <tbody> <tr><td>25</td><td>230</td><td>5-7</td></tr> <tr><td>40</td><td>415</td><td>9-11</td></tr> <tr><td>50</td><td>570</td><td>11-12</td></tr> <tr><td>60</td><td>715</td><td>13-15</td></tr> <tr><td>75</td><td>940</td><td>17-18</td></tr> <tr><td>90</td><td>1,227</td><td>18-19</td></tr> <tr><td>100</td><td>1,350</td><td>20-23</td></tr> <tr><td>150</td><td>2,180</td><td>37-39</td></tr> <tr><td>200</td><td>3,090</td><td>50-55</td></tr> <tr> <td colspan="3">* This range is for indicative purposes only. The actual installed CFL wattage may be outside of this range</td> </tr> </tbody> </table>	Table 1 AMS-II.J version 4 Light Output Requirements			Baseline Technology – Incandescent Lamp (Watt)	Minimum Light Output (Lumen)	Compact Fluorescent Lamps (*Watts)	25	230	5-7	40	415	9-11	50	570	11-12	60	715	13-15	75	940	17-18	90	1,227	18-19	100	1,350	20-23	150	2,180	37-39	200	3,090	50-55	* This range is for indicative purposes only. The actual installed CFL wattage may be outside of this range			<p>Each CPA owner will ensure that Lumen output of CFL matches or exceeds the lumen output of incandescent lamps .For ensuring this CPA will submit a data sheet of the CFLs which is being planned for distribution.</p> <p>The lumen output is validated through the data sheet for CFL lamps_{/28/}</p>
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200	3,090	50-55																																																																								
* This range is for indicative purposes only. The actual installed CFL wattage may be outside of this range																																																																										
<p>The aggregate energy savings by a single project may not exceed the equivalent of 60 GWh per year</p>	<p>The aggregate energy savings from a SSC-CPA will not exceed the equivalent of 60 GWh. This is demonstrated in SSC-CPA-DD.</p>	<p>It shall be checked during CPA inclusion by the CME that CERs from the project activity do not exceed 60 kilo tonnes annually.</p>																																																																								
<p>The average life or the rated average life¹ of the CFLs shall be known ex ante. IEC 60969 (Self Ballasted Lamps For General Lighting Services - Performance Requirements) or an equivalent national</p>	<p>The rated or average rated life of each CFL employed in the SSC-CPA will range from 10,000 hours upward. The exact rated or average rated life will be determined by each SSC-CPA.</p>	<p>Each CPA will determine the average</p>																																																																								

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<p>standard shall be used to determine the average life. The project design document shall cite the standard used. If the average life value is not available ex ante, it shall be made available for verification before or at the same time that the results of the second ex post monitoring survey, as required per paragraph 18 (b), are available for verification. The laboratory conducting and certifying the tests to determine CFL average life shall comply with the requirements of a relevant national or international standard, e.g., ISO/IEC 17025</p>		<p>life of type of CFL distributed in its boundary as per IEC 60969/national standard</p>
<p>CFLs utilized under the project activity shall, in addition to the standard lamp specifications², be marked for clear unique identification for the project.</p>	<p>In addition to the standard manufacturer's lamp specifications, CFLs lamps distributed and installed under the SSC-CPA will be legibly and permanently marked with unique identification (such as the name or logo of the coordinating/managing entity)</p>	<p>It shall be checked during CPA inclusion that project lamps have unique identification on the project lamps.</p>
<p>The Project design document shall also explain how the proposed procedures eliminate double counting of Emission Reductions, for example due to CFL manufacturers, wholesale providers or others possibly claiming credit for Emission Reductions for the project CFLs</p>	<p>The project design document explains the proposed method of distribution as follows:</p> <ul style="list-style-type: none"> • Direct installation at each household; and/or • Door-to-door distribution to each household (where direct installation is not possible) • CFL distribution via a dedicated distribution points. <p>SSC-CPA implementer(s) shall implement procedures for the storage and destruction of incandescent light bulbs.</p>	<p>It shall be checked during CPA inclusions how the procedures developed by CME are followed at CPA site.</p>
<p>The project activity will ensure that replaced incandescent light bulbs are exchanged and destroyed and will undertake at least one of the following actions:</p> <ul style="list-style-type: none"> (i) Directly installing the CFLs; (ii) Charging at least a minimal price for efficient lighting equipment; (iii) Restricting the number of lamps per household distributed through the project activity to six 	<p>SSC-CPA implementer will exchange incandescent light bulbs for CFLs. SSC-CPA implementer will arrange for destruction of replaced incandescent light bulbs.</p> <p>SSC-CPA implementer will undertake at least one of the following actions:</p> <ul style="list-style-type: none"> • Directly installing CFLs at each household • Charging at least a minimal price for efficient lighting equipment (i.e. provide CFL at an equivalent price of an incandescent light bulb; • Restricting the number of (CFLs) lamps per household distributed through the project activity to four. 	<p>It shall be checked during CPA inclusions how the procedures developed by CME are followed at CPA site.</p>

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	Where direct installation of CFLs is not possible, SSC-CPA implementer shall educate CFL recipients to install CFLs in high usage areas. The methods of education may include verbal education, flyers, leaflets contained in CFL packs, campaign.	
Proposed procedures eliminate double counting of emission reductions, for example due to CFL manufacturers, wholesale providers or others possibly claiming credit for Emission Reductions for the project CFLs.	CFL supplier i.e. manufacturer or wholesale providers, SSC-CPA implementer and participating households shall voluntarily enter into an agreement to relinquish their rights over the CERs generated from the project CFLs to the managing/coordinating entity, Icimi Ltd.	This is validated through Memorandum of Understanding between the CME and the CFL Manufacturer.
Whether the CFLs are directly installed or not directly installed, the project design document shall define actions to be taken to encourage CFLs being installed in locations within the residences where the utilization hours are relatively high, for example common areas. For CFLs not directly installed these actions can include educating the CFL recipients of the best uses for CFLs.	Where direct installation is not possible, SSC-CPA implementer shall educate the recipient to install CFLs in high usage areas. The methods of education may include but not limited to verbal education, leaflets contained in CFL packs	CME has made plans to educate the users by display of posters and having organised meeting to educate the potential users

3.7.1. POA & CPA Boundary

The geographical area within which all SSC-CPAs in the programme will be implemented is the Federal Republic of Nigeria. As per the POA implementation Plan, There are over 49 CPAs planned to be implemented in the whole country in the year 2013-14. Each CPA will have a unique distinct boundary in which CPA implementer will distribute CFLs.

Validation team based on review of PoA DD and g-CPA DD confirms that the project boundary as documented in the PoA-DD/03/ is justified for the future CPAs of the PoA and is fully in line with the requirements set by the applied methodology /B02/.

Validation team confirms that the project boundary for the potential/future CPAs is based on the applied methodology /B02/ and the sources and gases within the boundary have been considered in a transparent manner.

3.7.2 Baseline Scenario

The CPA is the adoption of self-ballasted CFLs to replace ICLs in residential applications thus saving electricity consumption generated by ECPG, hence, according to methodology AMS-II.J. Version04_{B04} the baseline scenario is determined at PoA level properly as:

The proposed project would not be invested by the project proponent and the incandescent lamps (ICLs) of households in Nigeria would be used as a continuation of current practice

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Carbon Check is able to conclude that the identified baseline scenario is suitable for the specific CPA.

There are no mandatory requirements in Nigeria regarding the use of energy efficient CFL at the household level. This complies with **Para. 87 and 88/VVM** /B01/. Carbon Check hereby confirms that:

- a) All the assumptions and data used by the project participants are listed in the design documents, including their references and sources;
- b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the design documents;
- 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 sector policies and circumstances are considered and listed in the design documents;
- 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 project activity.

3.8 Additionality

3.8.1 Prior consideration of CDM

As per § 4 of annex 13, EB 62 /B04-6/, “Guidelines for the demonstration and assessment of prior consideration of the CDM” do not apply to PoAs, as at present it is expected that no component of the programme will commence prior to the start date of validation of the PoA.

The start date of the CPA is later than 26/04/2012, the date of publication of the CDM-PoA-DD for global stakeholder consultation. It is consistent with Paragraph 7(d) of EB55 Annex38 and No.14 of the eligibility criteria.

3.8.2 Additionality of PoA

Relevant text of § 6(e) of annex 38 of EB 55	Assessment of the compliance
The proposed PoA is a voluntary coordinated action;	Based on the description provided in the PoA-DD /01/ and the on-site interviews with CME, validation team confirms that the proposed program is voluntary coordinated action by the CME. CME has also provided an undertaking of voluntary participation. Furthermore the LoA /05/ from the host country DNA clearly mentions that it authorizes Icmi Limited as the CME Hence the proposed PoA is a voluntary coordinated action.
(i) the proposed voluntary measure would not be implemented ,in the absence of CDM	PoA-DD /01/ clearly states that the PoA is implementing a voluntary coordinated action and it would not be implemented in the absence of the PoA. As stated in PoA-DD/01/, PoA would not be implemented in the absence of CDM. There is no current legislative obligation on the CME to undertake these projects/B09/. This has also been confirmed by the validation team from the on-site interviews with CME.
(ii) the mandatory policy/regulation would be systematically not enforced and that non-compliance with those requirements is widespread in the country/region, or	There is no mandatory policy in the Nigeria on energy efficiency measure. Validated through the “Energy Efficiency Survey in Nigeria A Guide for Developing Policy and Legislation” /B12/
(iii) that the PoA will lead to a greater level of enforcement of the existing mandatory policy /regulation.	There is no mandatory policy in the Nigeria on energy efficiency measure. Validated through the “Energy Efficiency Survey in Nigeria A Guide for Developing Policy and Legislation” /B08/

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Barriers provided for the additionality at the PoA level is validated as below:

Barrier Analysis	
In addition to "First of its kind the Project has demonstrated the presence of the following Barriers to the implementation of the project.	
Investment Barrier	The CPAs included in the PoA will not generate any financial benefit other than CDM related income when CFLs are distributed free-of-charge. Furthermore, the provision of CFLs at an equivalent price of incandescent light bulbs will only generate very little or non-material revenue and negative NPV/return in the absence of CDM due to the upfront costs of purchasing and distributing CFLs. The investment analysis will be carried out at CPA level
Income Barrier	Carbon Check confirms that poor earning abilities of Nigerian nationals prevent them to buy CFLs on the own accord. The National Bureau of Statistics said 60.9% of Nigerians in 2010 were living in "absolute poverty" - this figure had risen from 54.7% in 2004. The bureau predicted this rising trend was likely to continue. The information was validated through BBC News Africa ^{/B09/,/B14/}
Barrier due to prevailing practise.	The prevailing practice of using inefficient lighting sources such as incandescent light bulbs is a barrier to the programme implementation. Despite the long-run financial savings, energy conservation and the convenience of CFLs, many people are resistant to change and are set in their ways especially where the initial cost of switching is seen to be considerable. This is validated through the Survey report "Energy Efficiency Survey in Nigeria A Guide for Developing Policy and Legislation" ^{/B07/,/B08/}

Hence, the claim of the CME, that none of the CPAs under the PoA would occur in absence of CDM is justified. This demonstration is in compliance with § 6 of annex 38 of EB 55.

3.8.3 Approach for demonstrating CPA Additionality

The additionality criteria for the CPAs of the PoA is explained in the section E.5.1 and E.5.2 of the PoA DD.

As provided in section E.5.1 and E.5.2 of PoA-DD^{/01/}, the demonstration of additionality of CPA is based on the "Guidelines on the Demonstration of Additionality of Small-Scale Project Activities" EB 68 Annex 27 ^{/B06-i/}. As the CPA of the PoA meets the requirements of §2(c) and is under the positive list as per §2 of EB 68 Annex 27 it can be deemed additional. Each CPA to be included under the PoA shall distribute/sell isolated units, i.e. CFLs to households, There are three conditions for a project to become auto additional:

1. Project activities solely composed of isolated units;
2. Where the users of the technology/measure are households
3. Where the size of each unit is no larger than 5% of the small-scale CDM thresholds

DoE has further validated that even in the case of distribution of maximum wattage of CFL i.e. replacing 200W incandescent lamp r by 50 watt of CFL. The net energy saved /annum works out to 192 KWh which is 0.00032% of the of the small-scale CDM thresholds

As per eligibility criteria 6 stated in PoA-DD^{/01/}, POA shall demonstrate additionality as per Annex 27 of EB 68 (version 09.0) ^{/B06-i/}. Since all CPAs are going to distribute CFLs in the geographical boundary of Nigeria and each CPA is to comply to the conditions mentioned above the Additionality will be demonstrated at CPA Level. Technical specification / Data sheet from the manufacturer of the CFL lamps

- Lamp sales/distribution records or distribution plan.
- Emission reduction sheet

The CPAs of the PoA thus fulfills the condition 2(c) of the guidelines EB 68 (version 09.0) ^{/B06-i/} and hence does not require further documentation.

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However each CPA will do a simple investment analysis in the form of NPV. The additionality of the CPAs shall be checked using investment analysis calculating NPV of a typical SSC-CPA with and without CDM consideration.

Two clarification request CL-4 & CL-5 were raised and subsequently closed.

3.9 Emission reduction from a typical CPA of the PoA

- The steps taken to assess the requirement outlined in Para. 89 the $VVM_{/B01/}$ are described below:
- The emission reductions generated by the Project were calculated in accordance with the baseline methodology AMS.II.J version 04/ $B05/$ and the “Tool-Grid EF” version 02.2.0/ $B09/$
- According to the baseline methodology AMS.II.J version 04/ $B04/$, Emission reduction is net electricity savings (NES) times the emission factor calculated in accordance with provisions under AMS.I.D.

$$ER_y = NES_y * EF_{CO2,ELEC,y}$$

The electricity saved by the project activity in year y is calculated as follows:

$$NES_y = \sum_{i=1}^n Q_{PJ,i} \times (1 - LFR_{i,y}) \times ES_i \times \frac{1}{(1 - TD_y)} \times NTG$$

$$ES_i = (P_{i,BL} - P_{i,PJ}) \times O_i \times 365 / 1000$$

Where

NES_y	Net electricity saved in year y (kWh)
QP_{J,i}	Number (quantity) of pieces of equipment (CFLs) of type i distributed or installed under the project activity (units). In total for all “i”, this value shall be equal to or less than the documented number of all baseline incandescent lamps destroyed. Once all of the project CFLs are distributed or installed, QP _{J,i} is a constant value independent from y
I	Counter for equipment type
N	Number of types of equipment i
ES_i	Estimated annual electricity savings for equipment of type i, for the relevant technology (kWh)
LFR_{i,y}	Lamp Failure Rate for equipment type i in year y (fraction) It will be calculated in following manner 3 f $y * X_i < L_i, LFR_{i,y} = y * X_i * (100 - R_i) / (100 * L_i)$ If $y * X_i > or = L_i, LFR_{i,y} = 1$ 4 Where: LFR _{i,y} Lamp Failure Rate for equipment type i in year y (fraction) L _i Average Life (or Rated Average Life until average life value is available) for equipment type i (hours) R _i % of lamps of type i operating at the end of average life or the rated average life (use a value of 50) X _i Number of operating hours per year for equipment type i (hours) y Counter for year
TD_y	Average annual technical grid losses (transmission and distribution) during year y for the grid

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	-serving the locations where the devices are installed, expressed as a fraction. This value shall not include non-technical losses such as commercial losses (e.g., theft/pilferage).
NTG	Net-to-gross adjustment factor, a default value of 0.95 is to be used unless a more appropriate value based on a lighting use survey from the same region and not older than 2 years is available
P_i, BL	Rated power of the baseline lighting devices of the group of “i” lighting devices (Watts)
P_i, PJ	Rated power of the project lighting devices of the group of “i” lighting devices (Watts)
O_i	Average daily operating hours of the lighting devices replaced by the group of “i” lighting devices, use 3.5 hours per 24 hour period as the default value.

Emission Factor (EF_{CO₂,ELEC,y})

The tool to calculate emission factor of an electricity system” version 2.2.1 (here forth “Tools”) has been used to calculate the parameters

PP has presented the calculation in the spreadsheet EF & ER Calculations.xls/02/ The National Grid of Nigeria is identified as connected electricity system for grid emission factor estimation. The SSC-CFA will distribute CFLs to households serve by the Nigerian national electricity grid. The PP has submitted Nigerian Annual Grid reports /12/ for 2004-2008. Carbon check confirms that the values used in the spreadsheet are taken from the Annual reports /12/.

Validation Team was confirm that calculations comply the tool to calculate emission factor of an electricity system” version 2.2.1/B05/ and following values are calculated correctly .

Operating Margin EF	tCO ₂ /MWh	0.67
Build Margin EF	tCO ₂ /MWh	0.58
Weightage for OM (W1)	%	50%
Weightage for BM (W2)	%	50%
Combined Margin EF (EF CM)	tCO ₂ /MWh	0.63

A combined margin emission factor **0.63 tCO₂/ MWh** will be used for the PoA and throughout the crediting period. This has been also validated through other UNFCCC registered projects in Nigeria Reference No. 3841.

3.10 Monitoring Plan of a typical CPA

3.10.1 Parameters determined ex-ante

Carbon check confirms that following Parameters have been will be determined ex-ante . The parameters are appropriate and in line with methodology AMS I J Version 04

EFCO ₂ , ELEC,y	Emission factor for the electricity displaced from the grid calculated in accordance with AMS-I.D version 17	0.63
O _i	Average daily operating hours of incandescent light bulbs replaced (Hours per 24 hrs period)	3.5
NTG	Net-to-gross adjustment factor - All SSC-CPA under the PoA shall use a default value of 0.95	0.95
Li	Average life or rated average life for equipment type <i>i</i> (hours) Determined as per the independent life-tests of the CFLs as per national or international standard. The value is fixed ex-ante	*
Xi	Number of operating hours per year for equipment type <i>i</i> For leap year value will be 1281hrs. Calculated @ O _i =3.5hrs/day	1277.5
TDy	Average annual technical grid losses (transmission and distribution) during year <i>y</i> . Since this cannot be ascertained with accuracy, thus the default value of 0.1, should be used by SSC-CPA, in accordance with the AMS-II.J version 4.	0.1

3.10.2 Parameters determined ex-post

	Lamp Distribution Data will be recorded by the distribution team comprise of
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	<ul style="list-style-type: none"> • The start and completion date of CFL distribution, • Number of CFL distributed and their wattages • Number of ICL exchanged and their wattages • The physical geographic location of each CFL distributed and installed • Name, address and unique identification such as NEPA/PCHN/Official electricity folio number or voter registration number of CFL recipient
Pi, BL	Rated power of the baseline lighting devices of the group of "i" lighting devices (Watts)
Pi, PJ	Rated power of the project lighting devices of the group of "i" lighting devices (Watts)
QPJ,i	Number of CFLs of the group of "i" CFLs in operation during the first 12 months of distribution. To be determined by SSC-CPA based on the ex-post, monitoring survey
LFRi, y	Lamp Failure Rate for equipment type i in year y (fraction) through ex-post monitoring survey. The survey will be carried out after 1 st year and then in 4 th year and 7 th year.

For each CPA the sampling plan for the ex-post monitoring survey has also been provided to determine the number of each type of CFLs distributed under the Project ($Q_{PJ,i}$) and Lamp Failure Rate for CFL type i in year y ($LFR_{i,y}$). The survey principles are fully consistent with **Para.20 of AMS II.J. Version 04**,/B08/i-e.

1. The sampling size will be determined by a minimum 90% confidence interval and the 10% maximum error margin; the size of the sample shall be no less than 100.
2. Sampling must be statistically robust and relevant i.e., the survey has a random distribution and is representative of target population (size, location).
3. The method to select respondents for interviews is random.
4. The survey is conducted by site visits.
5. Only persons over age 12 are interviewed
6. The design documents contain the design details of the survey.
7. This data shall be stored electronically for each of the CPAs included in the PoA.

The sampling in monitoring surveys shall be done as per the requirements of "Standard for sampling and surveys for CDM Project Activities and PoAs", EB 69 Annex 4/_{B04-i}, "Guidelines for sampling and surveys for CDM project activities and programme of activities", EB 69 Annex 5/_{B04-j} and the methodology, AMS-IIJ version 04/_{B04}.

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Sampling Criteria stated in PoA-DD/03/	Assessment by Validation Team
<p>Sampling Objective The objective of the sampling is to determine the number of each type of CFLs distributed under the Project ($Q_{P,j,i}$) and Lamp Failure Rate for CFL type i in year y ($LFR_{i,y}$)</p>	<p>It is stated in PoA-DD/03/ that the parameter estimates that are calculated from the sample data should be unbiased and reliable estimate. CME affirms to implement measures to prevent non-sampling errors. This meets the requirements of § 38 (a) of EB 69 Annex 5/B06-j/. Sampling objective is also in line with the requirements of methodology/B02/. The provision of non-sampling errors also meets the requirements of § 38 (g) of EB 69 Annex 5/B06-i/.</p>
<p>Target Population and Sampling Frame The Target Population are recipients of project CFLs. For CPA implementer shall manage a Sales/ Distribution Record which shall be used to unambiguously trace the end users of the project CFLs. This list shall be used to draw a sampling frame. All sampling frames shall be produced in electronic copies, which shall be used to uniquely identify the location and final recipient of the CFLs.</p>	<p>This meets the requirements of § 38 (b) of EB 69 Annex 5/B06-j/.</p>
<p>Sample Method Simple Random Sampling</p>	<p>This meets the requirements of § 38 (c) and § 38 (e) of EB 69 Annex 5/B06-j/, § 21(a) and § 21(b) of EB 69 Annex 4/B06-i/ and §23(c) of the applied methodology AMS-II.J, version 04 /B02/.</p>
<p>Sample Size Calculation The sampling size is determined by minimum 90% confidence interval and the 10% maximum error margin; the size of the sample shall be no less than 100. A representative sample survey of target households at 90% confidence interval and ±10% error margin will be used to ensure unbiased and reliable estimates. The sample size will be determined using the following equation</p> $n \geq \frac{1.645^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 p(1-p)}$ <p>Where: <i>n</i> = Sample Size <i>N</i> = total number of households. <i>p</i> = Overall Proportion 1.645 = Represents the 90% confidence required 0.1 = Represents the 10% relative precision The monitoring surveys shall be carried out for the following parameters: a) <u>1st ex-post monitoring survey to determine the quantity of CFLs (QPJ,i)</u> The sample size (n) calculated in the PDD (by using above equation) = 30. Allowing 10% for non-</p>	<p>This is in line with the requirements of § 38(d) of EB 69 Annex 5/B06-j/ § 21(a) of EB 69 Annex 4/B06-i/ and §23(a) of the applied methodology AMS-II.J, version 03/B04/.</p>

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<p>response rate, the sample size = 33. According to AMS IIJ version 4, the minimum sample size of CFLs to be taken is 100. In a measure of conservatism and to allow for non-response (at 10%) the sample size is 110. Since the actual number of households in the CPA depends on the number of CFL distributed or installed, assuming the project distribute 4 CFLs per household, the households to be surveyed = $110/4 = 27.5$ households.</p> <p>However, to meet the requirement of AMS-II.J version 4, SSC-CPA implementers shall survey 100 households.</p> <p>b) <u>Ex-post CFL Monitoring Survey to assess failure rate (LFR,y)</u></p> <p>For determine this values used in the PDD is</p> <p><i>N = total number of households.700, 000</i> <i>1.645 = Represents the 90% confidence required</i> <i>0.1 = Represents the 10% relative precision</i></p> <p>$p = 74.45\%$ for 4th year (Based on 10,000 hours average rated life of CFLs installed and estimate the lamp failure rate (LFR) in the fourth year at 25.55%)</p> <p>Therefore n (by using above equation)= 92.8</p> <p>In a measure of conservatism and to allow for non-response (10%), PDD determines the sample size of CFL to be surveyed is 102. Since the actual number of households in the CPA depends on the number of CFL distributed or installed , assuming the project distribute 4 CFLs per household, the number of sample household to be surveyed to determine LFR = 26. However, according to the guideline of AMS-II.J the minimum sample household shall be 100.</p> <p>Similarly, PDD has demonstrated that by choosing the value of $p = 0.5$ in the 7th year then n will be 271. After adjusting for non-response rate of 10%, n equals 298. Therefore the number of sample household to determine LFR in year 7 is $298/4 = 75$ and as per AMS-II.J the minimum sample household shall be 100.</p>	
<p>Precision Level</p> <p>The precision level is fixed at 10%. This is in accordance with the general guidelines for sampling and surveys for small-scale CDM project activities</p>	<p>This is in line with the requirements of § 10, § 11 and § 20 of EB 69 Annex 4/B05/ and § 28 of EB 69 Annex 5/B06-i & j/.</p>
<p>Level of confidence</p> <p>Applying a confidence level of 90% a standard normal of 1.645 will be used in computation of the sample size.</p>	<p>This is in line with the requirements of § 10 and § 20 of EB 69 Annex 4/B06-i/ and § 28 of EB 69 Annex 5/B06-j/.</p>
<p>Procedures for Administering Data Collection</p> <ul style="list-style-type: none"> All the variables to measure are mentioned in section E.7.2. 	<p>This meets the requirements of § 38 (f) and 38 (h) of EB 69 Annex 5/B06-j/.</p>

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<ul style="list-style-type: none"> • Survey Frequency <p>The first ex post monitoring survey will be carried out within 12 months of CFL installation/distribution. Subsequent ex post monitoring surveys will take place in Years 4, Years 7 and Year 10 (depending on the length of the crediting period). However, SSC-CPA may choose to undertake subsequent ex post monitoring surveys more frequently than once every 3 years.</p> <p>The data collected from the sample size will be stored by CPA implementer in record books. The data will be used by Icimi Ltd. to prepare monitoring report and to calculate emission reductions.</p>	
<p>Procedures for Quality control and assurance</p> <p>The SSC-CPA implementer will monitor all relevant parameters for the SSC-CPA as defined in section E.7.1 and E.7.2. Monitoring data shall be recorded in the SSC-CPA database in a standardised format formulated by SSC-CPA implementer and approved by the CME. SSC-CPA implementer shall refer to the guidelines established in Annex 4 of this PoA for the monitoring process. The SSC-CPA implementer in its monitoring and sampling plan provided with the CPA-DD will ensure proper quality control methods are prescribed to ensure that data gathered is error free. An overall quality control and assurance strategy shall be documented in the plan.</p> <p>SSC-CPA implementer shall:</p> <ul style="list-style-type: none"> • Appoint and where necessary train in-house (SSC-CPA staff) personnel or commission a survey firm such as experienced field inspectors/researchers/environmental auditors to carry out monitoring; • SSC-CPA implementer shall establish procedures to conduct data collection, provide maximum response rates to survey, document out-of-population cases and other issues such as non-response to survey; <p><input type="checkbox"/> SSC-CPA implementer will send monitoring survey data/report to CME.</p>	<p>This meets the requirements of § 38 (g) of EB 69 Annex 5/B06-j/.</p>

The validation team confirm that sampling as part of the validation activities are in accordance with the “Standard for Sampling and surveys for CDM project activities and programme of activities”.

The management system document of the CME ^{/09/} & CME Monitoring Plan ^{/17/} provide sufficient information which forms the basis of confirmation by the validation team on the issues related but not limited to the monitoring methodology, data management, and the quality assurance and quality control procedures to be implemented in the context of the programme. Therefore, the CME and/or CPA implementer(s) will be able to implement the monitoring plan^{/17/} and the achieved emission reductions can be reported ex-post and verified. This confirms to the requirement of the §6 (j) of EB 55 annex 38/B06-f/.

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3.10.3 Monitoring and reporting system and quality assurance

PP has developed a documented Monitoring Manual which describe in details the following. Carbon Check confirms that reporting system is adequate and complies with the requirement of Paragraph 166 of VVM01.2/B01/

- Approach used in this monitoring plan
- Description of data required to be monitored Data variable
- Reporting of data for project ER calculations
- Approach to calculate Baseline EF & organizational structures and procedures for grid data collection
- Monitoring Procedures for CFL and ICL Collection, Recycle and Destruction
- Organizational structures & procedures to calculate, review, store and report ER calculations. Obligations of the SSC-CPA Programme Manager
- Monitoring Survey & frequency.
- Sampling approach & Data accuracy.
- Organizational structures & procedures and protocols
- CFL Distribution and Lamp Distribution Data recording guideline
- Quality Control ,Quality Assurance and Emergency Preparedness
- Query Reports ,Security and Fraud
- Data Backup , Access Rights & Access Controls &Automated Data Cleaning
- Gold Standard Indicators Monitoring Methodology

CL-7 & CL-8 were raised on the monitoring procedures and subsequently closed through revised PDDs

3.11 Environmental Impacts

The environmental analysis is done at POA level. The CME has carried out detailed analysis of environmental aspects. The only impacts identified in the PDD relates to possible leakage from incandescent light bulbs collected from participating households during the project activities and the mercury contained in CFLs. The company will make elaborate safe and secured storage sites for the safekeeping of both CFLs & ICLs as detailed in Monitoring Plan^{17/}.

Recycle used, broken, faulty or fused CFLs. If recycle is not available in SSC-CPA location, CFLs should be disposed in hazardous waste facility. Where required by regulation, CFL recycle/disposal record/report by appointed third party or via time stamped video recording to be made available for verification by the DOE.

The CME has carried out detailed analysis of trans- boundary impacts^{19/,/20/}. The Project identifies the following trans boundary impacts Air/Water pollution due to contamination of mercury in water from broken CFLs. Adequate Operational management controls & checks will be maintained in distribution and storage of the CFLs to mitigate this impact.

3.12 Local stakeholders consultation

The CME has conducted detailed stakeholder Consultation as stated in Section D.1 of the PoA -DD, the Local Stakeholder Consultation is done at POA level. The Local stakeholder consultation was done on 05/01/2012 at Ikorodu-Ijede

Carbon check could confirm that a newspaper invite^{27/} dated 30.12.2011 was published in a local daily. Stakeholders were invited through emails, Telephonic calls and the display of posters at prominent places. The posters were made in English as well as local language. Among the invitees were people representing local organisations,, Government representatives ,Nature protection groups , Spiritual leaders etc. Around 50 persons were contacted on one to basis. This was validated through invitation records^{21/}. Over 50 people attended the consultation as evidenced by the attendance list^{22/}. A presentation was given on the project. Each of the participant was given a evaluation form where invitees were encouraged to give their comments on the project. The compilation of the comments was reviewed by CME and responded. The comments are listed in the Annex 5 of the POA DD.

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During site visit On 01.09.2012 DOE was able to interact with some of the Stakeholders (Listed in section 2.2 of this report.). The meeting was held in the office of Chairman of Local Government Ikorodu-Ijede. CC can confirm the following from those interactions: _

- Local government is looking forward to commencement of this program.
- Residents look forward to lesser power shut downs & better life conditions after the program.

4 Comments By Parties, Stakeholders And NGOs

The POA-DD was published for global Stakeholders for the period 26/04/2012 to 25/05/2012 the date on which the PoA - DD & CPA-DD have been first published for global stakeholder consultation.

<http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/LMQL4ZT04JRV5L6U0OXLUDNT5ASFMV/view.html>

During the above period no comments were received.

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APPENDIX A

VALIDATION PROTOCOL

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Validation Protocol CDM-PoA-DD

Table 1 Conformity of CDM Programme of Activities

CHECKLIST TOPIC / QUESTION	Ref.	Validation Team Comments	Draft concl.	Final concl.
A. GENERAL DESCRIPTION OF CDM PROGRAMME OF ACTIVITIES (POA)				
A.1. Title of the CDM programme of activities (PoA)				
A.1.1. Does the used PoA title clearly enable to identify the unique CDM programme of activities?	/B01/,/B02/, /B06/,/B08/ /01/	Yes the title "Energy Efficiency of Nigeria's Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid" clearly enable to identify the unique CDM programme of activities?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.2. Are current version number and the date of document completion given in section A.1 of the PoA-DD?	/B01/,/B02/, /B06/,/B08/ /01/	Yes version number "10" and its date "24/04/2012". The same has been verified from the UNFCCC-website.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.3. Is this consistent with the time line of the programme's history?	/B01/,/B02/, /B06/,/B08/ /01/	Yes It is consistent with the time line history	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2. Description of the programme of activities				
A.2.1. Is the description delivering a transparent overview of the general operating and implementing framework of the PoA?	/B01/,/B02/, /B06/,/B08/ /01/,/03/,/07/ ./08/,/09/	Yes The proposed Programme of Activities (PoA) seeks to promote energy efficiency in Nigeria by replacing incandescent light bulbs used in most grid-connected households in Nigeria to a more energy efficient alternative, CFLs.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.2. Is the policy/measure or stated goal of the PoA clearly and unambiguously presented?	B01/,/B02/, /B06/,/B08/ /01/,/03/,/07/ ./08/,/09/	Yes. There are no mandatory policies or regulations for the adoption of energy saving lights such as CFLs by households in Nigeria. The goal of the PoA is to achieve nationwide transformation of households lighting through the adoption and utilization of energy efficient light (CFLs) in residential households throughout Nigeria. To achieve the stated goal, the PoA will replace incandescent light bulbs with up to 40 million CFLs in residential households that are connected to the national grid across the nation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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A.2.3.	Is there a valid confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity?	B01/,/B02/,/B06/,/B08/,/01/,/03/,/07/,/08/,/09/	There is no law, policy or mandatory requirements in Nigeria requiring the use of energy efficient CFL at the household level. The coordinating/managing entity will voluntarily undertake the SSC-PoA in order to effect a nationwide adoption of energy efficiency lighting in Nigeria	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.4.	Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance?	B01/,/B02/,/B06/,/B08/,/01/,/03/,/07/,/08/,/09/	Yes it explains how CFLs can increase electricity access whilst reducing energy consumption at the household level because the energy efficient bulbs that are introduced will generate more electricity with less energy leading to more energy being saved. This ensures that more energy is available to power economic development, and extends electricity supply to other parts of the country such as rural areas where many people endure chronic shortage of power supply.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.5.	Is the brief explanation how the programme will reduce greenhouse gas emission transparent and suitable?	B01/,/B02/,/B06/,/B08/,/01/,/03/,/07/,/08/,/09/	Yes These energy saving CFLs will benefit communities and the nation as a whole, result in energy conservation that will reduce households and Federal Government electricity spending, and abate greenhouse gas emission.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3. Coordinating/managing entity and participants of CDM-PoA					
A.3.1.	Is the form required for the indication of project participants correctly applied?	B01/,/B02/,/B06/,/B08/,/01/,/03/,/07/,/08/,/09/	The template of the Programme of Activities Design Document Form (CDM-PoA-DD) – version 01 is used .It has not been altered in any way.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.2.	Is the participation of the listed entities or Parties in the PoA confirmed by each one of them?	B01/,/B02/,/B06/,/B08/,/01/,/04/,/05/,/29/	The Federal Republic of Nigeria has been identified as the host Party and Icim Ltd has been identified as the project participant, as stated in Section A.3. of the PoA-DD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.3.	Is all information on participants / Parties provided in consistency with details provided by further chapters of the PoA-DD (in particular annex 1)?	B01/,/B02/,/B06/,/B08/,/01/,/04/,/05/,/29/	Yes There is a consistency in PDD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.4.	Is it evident that the coordinating or managing entity of the PoA is the entity which communicates with the Executive Board (EB)?	B01/,/B02/,/B06/,/B08/,/01/,/04/,/05/,/29/	Yes it is very clearly defined that Icim Ltd. Is a CME which communicates with the Executive Board (EB)?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4. Technical description of the CDM programme of activities					
A.4.1. Location of the programme of activities					
A.4.1.1.	Does the information provided on the location of the programme allow for a	/01/,/08/,/09/,/10/	The geographical area within which all SSC-CPAs in the programme will be implemented is the Federal Republic of Nigeria.. This has been clearly	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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clear definition identification of the boundary for the PoA in terms of a geographical area, within which all CPAs included in this PoA will be implemented?		described in section A.4.1.2 of POA-DD.		
A.4.1.2. Is the consideration of all applicable national and/or sectoral policies and regulations of each host country within the boundary evident and substantiated?	/01/,/07/, /08/, /09/,/10/	There is no law, policy or mandatory requirements in Nigeria requiring the use of energy efficient CFL at the household level. The coordinating / managing entity will voluntarily undertake the SSC-PoA in order to effect a nationwide adoption of energy efficiency lighting in Nigeria. This was validated through the Survey report/B08/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.1.3. Is/are the Host Party(ies) stated?		Yes the host party is Nigeria and it is consistently stated in POA-DD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2. Description of a typical CDM programme activity (CPA)				
A.4.2.1. Is it unambiguously stated which technology or measures are to be employed by the CPA?	B01/,/B02/, /B08/,/1/	<p>The technology measure is stated transparently SSC-CPA will employ quality long life self-ballasted (integrated) compact fluorescent lamps (CFLs) as replacement for incandescent lamps in residential households. A self-ballasted CFL is an integrated lamp-ballast combination consisting of a gas-filled tube, and electronic ballast;</p> <p>A clarification request was raised how the households in Nigeria are dependent upon wood and biomass for their lighting needs. PDD has been revised to exclude that.</p> <p>A corrective action request on POA-PDD not describing the wattage of CFL & ICL which will be distributed in lieu of the wattages of ICL.</p>	CL1 CAR- 4	<input checked="" type="checkbox"/>
A.4.2.2. Is the type and category of project activities correctly identified and indicated?	B01/,/B02/, /B08/,/1/	Type and category of Project activity has been identified in the POA DD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.3. Does the technical design of the project activity reflect current good practices?	B01/,/B02/, /B08/,/1/	<p>The project activity shall be designed to limit undesired secondary market effects (e.g. leakage) and free riders by undertaking at least one of the following actions:</p> <ul style="list-style-type: none"> ○ Directly installing the CFLs; ○ Charging at least a minimal price for efficient lighting equipment i.e. selling CFL at an equivalent cost of an incandescent light bulb and/or; ○ Restricting the number of (CFLs) lamps per household distributed through the project activity to six. 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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A.4.2.4. Does the implementation of the project activity require any technology transfer from Annex-I-countries to the host country (ies)?	B01/,/B02/, /B08/,/1/,/14/	Since the project involves only distribution of CFLs by replacing ICLs , there is no technology transfer planned as of now.. However Initial training is planned to be given to the distributors in replacing ICLs and making them aware of energy efficiency.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.5. Is the technology implemented by the project activity environmentally safe?	B01/,/B02/, /B08/,/1/,/14/	Yes the technology is entirely safe SSC-CPA will employ quality long life self-ballasted (integrated) compact fluorescent lamps (CFLs) as replacement for incandescent lamps in residential households. A self-ballasted CFL is an integrated lamp-ballast combination consisting of a gas-filled tube, and electronic ballast;		
A.4.2.6. Is the information provided in compliance with actual situation or planning?	B01/,/B02/, /B08/,/1/,/14/	Yes the information provided is in compliance with actual situation but the PDD Does not give any details of other CFL distribution programmes in the country. A CAR was raised and PDD was revised to include the details of other programmes	CAR- 2	<input checked="" type="checkbox"/>
A.4.2.7. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	B01/,/B02/, /B08/,/1/,/14/	<ul style="list-style-type: none"> SSC-CPA will employ quality long life self-ballasted (integrated) compact fluorescent lamps (CFLs) as replacement for incandescent lamps in residential households. A self-ballasted CFL is an integrated lamp-ballast combination consisting of a gas-filled tube, and electronic ballast; Will significantly reduce household electricity expenses thus representing huge saving to individual household Improve living standard and reduce poverty especially in rural area where approximately 80% of people live below the poverty line¹, and where only 20% of all households are electrified. 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.8. Does the project require extensive initial training and maintenance	B01/,/B02/, /B08/,/1/,/14/	The CME has put in place an operation management programme. The programme identifies the training needs of the personal in selling and fixing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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efforts in order to be carried out as scheduled during the project period?		of CFLs in Household		
A.4.2.9. Is information available on the demand and requirements for training and maintenance?	B01/,/B02/,/B08/,/1/,/14/	Yes a documented procedure “Human Capacity Building “ has been developed which will be used in building human capacity for the project	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.10. Are there clear and unambiguous eligibility criteria for the inclusion of a CPA into the PoA? (Annex 3 of EB 65 §14)	B01/,/B02/,/B08/,/1/,/14/	Section A.4..2.2 details the eligibility criteria for the inclusion of a CPA into the PoA		
A.4.3. Description of how the anthropogenic emissions of GHG by sources are reduced by a CPA below those that would have occurred in the absence of the registered PoA (assessment and demonstration of additionality of the PoA as a whole)				
A.4.3.1. Is it evident and clearly documented that the proposed PoA is a voluntary coordinated action?	B01/,/B14/,/B08/,/1/,/14/	There is no energy efficient project utilising CFL on such a large scale that is currently in commercial operation in Nigeria. The proposed PoA is the first and only energy efficiency project which will be distributing up to 40 million CFLs to residential households under the PoA in Nigeria. The only existing project which is a UNDP sponsored program is distributing 01 million CFL in Nigeria. This had been validated through UNDP Project report /B14/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.2. Is it evident and substantiated that this voluntary coordinated action would not be implemented in the absence of the PoA?	B01/,/B14/,/B08/,/1/,/14/	See above in A.4.3.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.3. Is it evident and substantiated that in case the PoA implements a mandatory policy or regulation this would not be enforced otherwise?	B01/,/B08/,/B08/,/1/,/14/	There is no mandatory policy in the Nigeria on energy efficiency measure. Validated through the “Energy Efficiency Survey in Nigeria A Guide for Developing Policy and Legislation” /B12/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.4. Is it evident and substantiated that in case the PoA implements a mandatory policy or regulation that is enforced the PoA will lead to a greater level of enforcement?	B01/,/B08/,/B08/,/1/,/14/	There is no mandatory policy in the Nigeria on energy efficiency measure. Validated through the “Energy Efficiency Survey in Nigeria A Guide for Developing Policy and Legislation” /B12/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4. Operational, management and monitoring plan for the programme of activities (PoA)				
A.4.4.1. Is there a clear and transparent description of the operational and management arrangements established by the	/B01/,/B06/,/11/,/13/,/16/	The CME has developed and shall implement a management system which must include a records and documentation control process for each CPA under the PoA. The management program has been detailed in section A.4.4.1 of PDD. The CME has developed checklist for inclusion of	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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coordinating/managing entity?		CPA where it has listed 17 check points. The checklist will ensure that all qualifying criteria for inclusion of a CPA will meet before the approval is given for it's inclusion in CPA		
A.4.4.2. Is there a record keeping system for each CPA under the PoA?	/B01/,/B06/, /11/,/13/,/16/		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.3. Is there a system or procedure to avoid double accounting, i.e. to avoid that an included CPA under this PoA already is a registered CDM project or CPA in another PoA?	/B01/,/B06/, /08/,/09/,/10/ /11/,/17/	Yes this has been included in CME's operational Management Plan as well as the checklist as mentioned A.6..1 (check Point #5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.4. Is there a system or procedure to detect whether a CPA to be included in the PoA is not a de-bundled component of another CPA or CDM project?	/B01/,/B06/, /08/,/09/,/10/ /11/,/17/	As stated in Section A.4.4.2. of the PoA-DD, it is confirmed each CPA will be individually monitored, hence a sampling method will be used for each CPA for CFL distributed in a geographic region of CPA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.5. Are provisions in place to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA?	/B01/,/B06/, /08/,/09/,/10/ /11/,/17/	Yes this has been included in CME's operational Management Plan as well as the checklist.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.6. Is there a monitoring plan for the PoA, including a description of the proposed statistically sound sampling methods or procedures to be used by the DOE for the verification (please consider sampling among CPAs and within CPAs)?	/B01/,/B06/, /08/,/09/,/10/ /11/,/17/	As stated in Section A.4.4.2. of the PoA-DD, it is confirmed each CPA will be individually monitored, hence a sampling method will be used for each CPA for CFL distributed in a geographic region of CPA . The detailed monitoring plan is listed in Annex-4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.7. In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA, does the monitoring plan provide a transparent system to ensure that no double accounting occurs and that the status of verification can be determined any time for each CPA?	/B01/,/B06/, /08/,/09/,/10/ /11/,/17/	As stated in Section A.4.4.2. of the PoA-DD, it is confirmed each CPA will be individually monitored, hence a sampling method will be used for each CPA for CFL distributed in a geographic region of CPA. The detailed monitoring plan is listed in Annex-4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.5. Public funding of the project activity				

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<p>A.4.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?</p>	<p>/01/,/B01/,/28/</p>	<p>There is no public funding provided . In addition SSC-CPA shall declare in writing that no public funding (ODA) from Annex I parties will be used in the SSC-CPA, if public funding is received by SSC-CPA(s) under the PoA, the SSC-CPA will affirm that such funding does not result in diversion of ODA and is separate from and is not counted towards the financial obligations of those parties;</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PoA-DD (in particular annex 2)?</p>	<p>/01/,/B01/,/28/</p>	<p>Yes it is consistent with Annex 2</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>B. DURATION OF THE PROGRAMME OF ACTIVITIES</p>				
<p>B.1. Starting date of the programme of activities</p>				
<p>B.1.1. Is the programme's starting date clearly defined and reasonable?</p>	<p>/B01/,/B07/,/B10/,09,10</p>	<p>In Section B.1. of the web hosted PoA-DD it is stated that the start date of the PoA is 01/12/2012 . This date has been revised to 01/104/2013 which is also a start date of 1st CPA The company has submitted a plan of execution of the CPAs. The programme will cover whole of Nigeria and preliminary planning is for 49 CPAs. CME has identified the resource requirement and number of households in the 1st CPA which it plans to implement from 1st March 2013. The CPAs will be included in passed manner during 2013-14 A Clarification was sought on the procurement plan for the CFLs for the POA. The CME submitted a detailed plan along with a MOU with a CFL Manufacturer</p>	<p>CL-3</p>	<p><input checked="" type="checkbox"/></p>
<p>B.2. Length of the programme of activities (PoA)</p>				
<p>B.2.1. Is the assumed length of the PoA clearly defined by the coordinating managing entity and reasonable (max 28 years)?</p>	<p>/B01/,/B07/,/B10/,09,10</p>	<p>Length of the programme has been clearly defined as 28 Years</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>C. ENVIRONMENTAL ANALYSIS</p>				
<p>C.1. Definition of the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken:</p>				
<p>C.1.1. Is it defined whether the environmental analysis takes place at PoA or CPA level?</p>	<p>/B01/,/B08/,/B06/,/17/,/20/</p>	<p>As stated in Section C.1. of the PoA-DD the environmental analysis is done at POA level. Since the Project is also being planned for Gold standard (GS) certification. The CME has carried out detailed analysis of environmental aspects.</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>

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C.1.2. Is the choice whether the environmental analysis takes place at PoA or CPA level justified?	/B01/,/B08/,/B06/ /17/,/20/	Since The technologies (CFLs) to be distributed by each SSC-CPA are the same or similar and present similar positive environmental impacts wherever they are applied and no major anticipated negative impacts. Therefore environmental analysis is done at PoA level as CFLs do not have any major detrimental environmental impact that would justify an individual assessment of each SSC-CPA.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2. Documentation on the analysis of the environmental impacts of the PoA, including transboundary impacts:				
C.2.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	/B01/,/B08/,/B06/ /17/,/20/	There are no EIA requirements for CFL projects.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?	/B01/,/B08/,/B06/ /17/,/20/	The only impacts identified in the PDD relates to possible leakage from incandescent light bulbs collected from participating households during the project activities and the mercury contained in CFLs. The company will make elaborate safe and secured storage sites for the safekeeping of CFLs and ICLs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.3. Will the project create any adverse environmental effects?	/B01/,/B08/,/B06/ /17/,/20/	See above in C.2..2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.4. Were trans-boundary environmental impacts identified in the analysis?	/B01/,/B08/,/B06/ /17/,/20/	Since the Project is also being planned for Gold standard (GS) certification. The CME has carried out detailed analysis of environmental aspects including trans boundary impacts. The Project identifies the following trans boundary impacts Air/Water pollution due to contamination of mercury in water from broken CFLs. Adequate Operational management controls & checks will be maintained in distribution and storage of the CFLs to mitigate this impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.3. Please state whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA of the PoA:				
C.3.1. Have the identified environmental impacts been addressed in the project design sufficiently?	/B01/,/B08/,/B06/ /17/,/20/	The only impacts identified in the PDD relates to possible leakage from incandescent light bulbs collected from participating households during the project activities and the mercury contained in CFLs. The company will make elaborate safe and secured storage sites for the safekeeping of CFLs and ICLs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.3.2. Does the project comply with	/B01/,/B08/,/B06/	Yes the programme complies with the requirements of following Nigerian	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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environmental legislation in the host country?	/17/,/20/	Legislation:- • Decree No. 86 of 1992 environment Protection.		
C.3.3. Is, per host country laws/regulations, an environmental impact assessment necessary for a typical CPA?	/B01/,/B08/,/B06/ /17/,/20/	No environmental impact assessment necessary for a typical CPA as per Nigerian Law	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D. STAKEHOLDERS' COMMENTS				
D.1. Please indicate the level at which local stakeholder comments are invited. Justify the choice:				
D.1.1. Is there a clear statement whether the stakeholder comments will be invited at PoA or CPA level?	/01/,/19/,/20/, /21/,/22/,/23/, /24/,/25/	Stakeholder comments will be invited at PoA level	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.2. Is the choice justified in a clear and reasonable manner?	/01/,/19/,/20/, /21/,/22/,/23/, /24/,/25/	Justification of why Stakeholder comments are done at POA Levels is available in POA-DD		
D.1.3. If the stakeholder comments will be invited at PoA level, is there sufficient information provided, on how comments by local stakeholders were invited?	/01/,/19/,/20/, /21/,/22/,/23/, /24/,/25/,/26/,/27/	Comments were invited through insertion in local Newspapers and through Posters inviting people to the local stakeholder meeting appeared throughout communities – Post Office, Town Hall, Schools, Bus Garage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.4. If the stakeholder comments will be invited at PoA level, is there a summary of the contents?	/01/,/19/,/20/, /21/,/22/,/23/, /24/,/25/,/26/,/27/	Yes it is in Annex V of PDD	CAR- 3	<input checked="" type="checkbox"/>
D.1.5. If the stakeholder comments will be invited at PoA level, is there sufficient information provided, on how due account was taken of any comments received?	/01/,/19/,/20/, /21/,/22/,/23/, /24/,/25/,/26/,/27/	Yes Annex V details what comments were raised and how the same were accounted for and how were they responded.	CAR- 3	<input checked="" type="checkbox"/>
D.2. Brief description how comments by local stakeholders have been invited and compiled				
D.2.1. Have relevant stakeholders been consulted?	/01/,/19/,/20/, /21/,/22/,/23/,	The CME has conducted detailed stakeholder Consultation in line with GS requirements. As stated in Section D.1. of the PoA -DD, the Local	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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	/24/,/25/,/26/,/27/	Stakeholder Consultation is done at POA level.. The first consultation was done for the CPA-1 on 05/01/2012 During site visit On 01.09.2012 DOE was able to interact with some of the Stakeholders (Listed in section 2.2 of this report.). The meeting was held in the office of Chairman of Local Government Ikorodu-Ijede. CC can confirm the following from those interactions :_ <ul style="list-style-type: none"> Local government is looking forward to commencement of this program. Residents look forward to lesser power shut downs & better life conditions after the program.		
D.2.2. Have appropriate media been used to invite comments by local stakeholders?	/01/,/19/,/20/,/21/,/22/,/23/,/24/,/25/,/26/,/27/	Yes newspaper invite dated 30.11.2011 was sent along with the display of posters at prominent places to participate in the event. The posters were made in English as well as local language. The display of posters were also validated during site visit by DOE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/01/,/19/,/20/,/21/,/22/,/23/,/24/,/25/,/26/,/27/	No such process is required from the for this kind of project	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	/01/,/19/,/20/,/21/,/22/,/23/,/24/,/25/,/26/,/27/	The CME has conducted detailed stakeholder Consultation in line with GS requirements. Description of the same is complete	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.3. Summary of the comments received				
D.3.1. Is a summary of the received stakeholder comments provided?	/01/,/19/,/20/,/21/,/22/,/23/,/24/,/25/,/26/,/27/	Summary of comments received during Stakeholder process are not included in the PDD version 10. Annex V. However same was provided in Final PDD	CAR-3	<input checked="" type="checkbox"/>
D.4. Report on how due account was taken of any comments received				
D.4.1. Has due account been taken of any stakeholder comments received?	/01/,/19/,/20/,/21/,/22/,/23/,/24/,/25/,/26/,/27/	Annex V details what comments were raised and how the same were accounted for and how were they responded	CAR-3	<input checked="" type="checkbox"/>
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 CPA included in the PoA				
E.1.1.1. Are reference number, version	/B01/,/B08/,/01/	As stated in Section E.1. of the PoA -DD, the Approved Baseline and Monitoring Methodology for Small Scale CDM Project Activities, AMS IJ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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number, and title of the baseline and monitoring methodology clearly indicated?		Version 04 "Demand-side activities for efficient lighting technologies"		
E.1.1.2. Is the applied version the most recent one and / or is this version still applicable?	/B01/,/B08/,/01/	Yes the applied version the most recent one and / or is this version still applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.1.3. Is the applied methodology and applicable tool therein is applied and approved by the board, for use in PoA?	/B01/,/B08/,/01/	Yes the applied version AMS IJ Version 04 the most recent one and is still applicable..	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.2. Justification of the choice of the methodology and why it is applicable to a CPA				
E.2.1.1. Is the applied methodology considered the most appropriate one?	/B01/,/B08/,/01/	AMS II J version 4 Demand-side activities for efficient lighting technologies are the most appropriate one.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.2.1.2. Does the methodology account for leakage in the context of a CPA?	/B01/,/B08/,/01/	No special provision of leakage is made. Avoidance of leakage is limited to undesired secondary market effects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.2.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled?	/B01/,/B08/,/01/	Yes the project fulfils all the applicability criteria' in the methodology, the applied tools.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.3. Description of the sources and gases included in the CPA boundary				
E.3.1.1. Does the CPA boundary include the physical and geographical location where the programme activities take place?	/B01/,/B08/,/01/	The project boundary is the physical, geographical location of each CFL installed in households participating in the SSC-CPA, and the electricity grid to which the participating households are connected.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.3.1.2. Are all sources and gases within the boundary considered in a clear manner?	/B01/,/B08/,/01/	Yes sources and gases within the boundary considered in a clear manner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.3.1.3. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PoA-DD?	/B01/,/B08/,/01/	The PoA will cover the geographical boundary of Nigeria. Currently there are 49 CPAs Planned. It was verified through site visit and review of documents each CPA will have it unique boundary.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.4. Description of how the baseline scenario is identified and description of the identified baseline scenario:				

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<p>E.4.1.1. Have all technically feasible baseline scenario alternatives to the PoA been identified and discussed by the PoA-DD? Why can this list be considered as being complete?</p>	<p>/B01/,/B08/,/01/ /B14/,/B11/</p>	<p>As stated in Section E.4. of the PoA-DD and as per AMS IJ VERSION 04 , three baseline scenarios have been identified and the appropriate baseline scenario is as follows:- The continuation of the current situation whereby grid connected households in Nigeria continues with the current practise of using incandescent light bulbs.” This baseline scenario is the only credible alternative in the absence of the PoA. Two alternate scenario are also chosen I PoA could be implemented as non-CDM through a government-sponsored programme. Under such initiative, Government of Nigeria will purchase and distribute CFLs free-of-charge or at a minimal cost to grid connected residential households throughout Nigeria II The second alternative is self replacement of incandescent light bulbs with CFLs by individual households. The selected scenario is the most likely one because of the economic conditions of the country. Neither the Nigeria government is in position to invest in such large project nor the individuals household earning capacity is enough to invest in the CFLs. Hence the selected scenario is the most likely one. This was validated through information available in public domain./B14/ & B19/</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>E.4.1.2. Does project identify correctly and exclude those options not in line with regulatory or legal requirements?</p>	<p>/B01/,/B08/,/01/ /B14/,/B11/,/B11/</p>	<p>All scenarios are in Line with regulatory requirements</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>
<p>E.4.1.3. Have applicable regulatory or legal requirements been identified?</p>	<p>B01/,/B08/,/01/ /B14/,/B11/,/B11/</p>	<p>As of now there is no policy or mandated legal requirement at the governmental level in Nigeria for the replacement of incandescent light bulbs with energy saving lights such as CFLs. Furthermore there is no government initiative concern with mass-scale country-wide distribution of CFLs to grid-connected households throughout Nigeria being implemented. In the PDD A Clarification request was raised in regards to a statement on a first of it's kind of project as no evidence was produce to substantiate it</p>	<p>CL-4</p>	<p><input checked="" type="checkbox"/></p>
<p>E.4.1.4. Does the PoA-DD identify the most likely baseline scenario in absence of the project activity ?</p>	<p>B01/,/B08/,/01/ /B14/,/B15/,/B07//</p>	<p>Yes the most likely baseline scenario in absence of the project activity is :- The continuation of the current situation whereby grid connected households in Nigeria continues with the current practise of using</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>

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		incandescent light bulbs.” This baseline scenario is the only credible alternative in the absence of the PoA.		
E.4.1.5. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc)?	B01/,/B08/, /01/ /B14/,/B15/, /B07//	Yes see above in E.4.1.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of a typical CDM-CPA, included in a registered PoA (assessment and demonstration of additionality):				
E.5.1. Are the key criteria and data for assessing additionality of a CDM-CPA that is to be included into the PoA clearly and unambiguously stated?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//	Key criteria’s for demonstration Additionality of the project are stated in section E.5.1 (i) paragraph 6(e) of annex 38 of EB 55 (ii) EB 69 Annex 07 “Guidelines on additionality of first-of-its-kind project activities” v.2 (iii) EB 63 Annex 24 “Attachment A of Appendix B” v.8 Attachment A to Appendix B of the simplified modalities and procedures for small scale CDM activities (iv) EB 63 Annex 26 “Guidelines for demonstrating additionality of microscale project activities” v.4, paragraph 3_	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.5.2.				
E.5.2.1. Are the key criteria and data for assessing additionality of a CPA that is to be included into the PoA based on the additionality assessment in section E.5.1 of the PoA-DD?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//	Yes additionality of CPA , to be included will be determined on the criteria stated in section E.5.1 above	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.5.2.2. Is the choice of the criteria justified, based on the analysis in section E.5.1 of the PoA-DD?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//	Yes the choice of criteria is justified	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.5.2.3. Does it become evident how these criteria would be applied to assess the additionality of a typical CPA at the time of inclusion?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//	These criteria are already included in a procedure and a check list that will be used for assessing the applicability criteria’s for each CPA before it’s inclusion in the POA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.5.2.4. Is this information incorporated into the specific CDM-CPA-DD (“real	B01/,/B08/, /B09/,/01/	Yes section B.2 clearly demonstrate how CPA-1 have incorporated the additionality requirement .	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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case")?	/B14/,/B15/, /B07//			
E.5.2.5. If the starting date of the programme activity is before the date of validation, is evidence available to prove that incentive from the CDM was seriously considered in the decision to proceed with the programme activity?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//	The start date of the CPA is later than 26/04/2012, the date of publication of the CDM-PoA-DD for global stakeholder consultation. It is consistent with Para. 7(d) of EB55 Annex38 and No.14 of the eligibility criteria. Additionally Carbon check confirms that there is an Emission reduction purchase agreement for sale of CERs with Eneco Energy Trade BV. This proves that incentive from the CDM was seriously considered in the decision to proceed with the programme activity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.5.2.6. Is a complete list of barriers developed that prevents the project activity to occur?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//	In addition to "First of its kind the Project has demonstrated the presence of the following Barriers to the implementation of the implementation project. In the web hosted PDD barriers as well as input values used for calculating NPV were not adequately substantiated hence a clarification was raised . Subsequently the final version of PDD was submitted.	CL-5	<input checked="" type="checkbox"/>
E.5.2.7. Does this list include at least one of the following barriers?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//,/B13/, /14/,/B08/ /B17/,/B06/	The barriers considered are (i) Income Barrier- Carbon Check confirms that poor earning abilities of Nigerian nationals prevent them to buy CFLs on the own accord . The National Bureau of Statistics said 60.9% of Nigerians in 2010 were living in "absolute poverty" - this figure had risen from 54.7% in 2004.The bureau predicted this rising trend was likely to continue. The information was validated through BBC News on Africa/ ^{13/} (ii) Technology Barrier:- The penetration of efficient energy saving technologies, especially in developing countries such as Nigeria, is very slow, .According to the Lagos State Chamber of Commerce, there is no manufacturing facility of energy efficiency light bulbs in Nigeria ² . In the case of CFLs that are imported into the Nigerian	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

² <http://www.ng.undp.org/energy/EE-project-document.pdf>

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		<p>market, many are of inferior and sub-standard quality which provides little incentive to replicate the technology. This is validated through a comprehensive report on barriers to CFL_{/B20/}</p> <p>(iii) Behavioural- The prevailing practice of using inefficient lighting sources such as incandescent light bulbs is a barrier to the programme implementation. Despite the long-run financial savings, energy conservation and the convenience of CFLs, many people are resistant to change and are set in their ways especially where the initial cost of switching is seen to be considerable. This is validated through the Survey report /B12/</p> <p>(iv) Barrier Due to Lack of Institutional Capacity:- Nigeria as a country lacks adequate energy efficiency experts that will drive the development of the concept and policy that will promote energy efficiency technology such as CFLs. This was validated through Published reports _{/B14/ & /B17/}</p>		
E.5.2.8. Does the discussion sufficiently take into account relevant national and/or sectoral policies?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//,/B13/, /B08/	There is no mandatory policy in the Nigeria on energy efficiency measure. Validated through the “Energy Efficiency Survey in Nigeria A Guide for Developing Policy and Legislation” /B12/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.5.2.9. Is transparent and documented evidence provided on the existence and significance of these barriers?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//,/B13/, /B08/	Yes these barriers are evidenced through the appropriate information available in public domain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.5.2.10. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?	B01/,/B08/, /B09/,/01/ /B14/,/B15/, /B07//,/B13/, /B08/	Approval of the project activity will enable project participant to mitigate the NPV of a CPA which will always remain negative.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.6. Estimation of Emission reductions of a CPA				
E.6.1. Explanation of methodological choices, provided in the approved baseline and monitoring methodology applied, selected for a typical CPA				
E.6.1.1. Is it explained how the procedures provided in the methodology are applied?	/B01/,/B08/, /01/,/02/	<p>The procedure follow the requirements of methodology</p> <p>Lumen Output Requirements & CFL Rated Average Life:- In accordance with paragraph 2 of AMS-II.J Version 4, the total lumen output of the CFL should be equal to or more than that of the ICL being replaced; lumen output of ICL & CFL shall be determined in accordance with relevant</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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		<p>national or international standard/s for each CPA Since at the time validation procurement of CFL has not started , the test reports for the specific CPA were not available. The test reports will be verified at the time of first verification as per paragraph 4 of the Methodology. A FAR has been raised in CPA Validation Report</p> <p>Limit undesired secondary market effects CME will undertake at least one of the following actions:</p> <ul style="list-style-type: none"> (i) Directly installing the CFLs; (ii) Charging at least a minimal price for efficient lighting equipment (i.e. provide CFL at an equivalent cost of an incandescent light bulb; and/or (i) Restricting the number of (CFLs) lamps per household distributed through the project activity to six.. <p>The above was validated through POA Management Plan which CME has developed.</p> <p>Default values have been chosen for the following factors in line with AMS-II.J Version 4</p> <table border="1" data-bbox="1032 807 1917 932"> <thead> <tr> <th>Technical Grid Losses (TD)</th> <th>Operating hours of project and baseline lamps</th> <th>Net-to-gross adjustment factor</th> </tr> </thead> <tbody> <tr> <td>10%</td> <td>3.5hrs</td> <td>0.95</td> </tr> </tbody> </table> <p>Lamp Failure rate LFR ex ante estimation It is calculated as per AMS-II.J Version 4. For average rated life time of CFL is 10,000 hours, then 50% of the lamps would fail at 10000 hour i.e. 5% LFR for every 1000 hours and 50% LFR for the project life to end.</p> <p>Ex post monitoring:- To determine the minimum number of ex post monitoring surveys for Lamp Failure Rate (LFR_{i,y}) and where relevant ex post average daily operating hours (O_i), SSC-CPA shall choose the period once every 3 years</p>	Technical Grid Losses (TD)	Operating hours of project and baseline lamps	Net-to-gross adjustment factor	10%	3.5hrs	0.95		
Technical Grid Losses (TD)	Operating hours of project and baseline lamps	Net-to-gross adjustment factor								
10%	3.5hrs	0.95								

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<p>E.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?</p>	<p>/B01/,/B08/, /01/,/02/</p>	<p>Yes . The selection of options offered by the methodology correctly justified and is this justification</p>	<p><input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/></p>				
<p>Determination of Project Emission (Comment on any line answered “No”)</p>								
<p>E.6.1.3. Component 1: Emissions from decomposition of waste at the landfill site</p>	<p>/B01/,/B08/, /01/,/02/</p>	<p>There is no project emissions hence not applicable</p>						
<p>E.6.1.4. Component 2: Emissions from the consumption of electricity.</p>	<p>/B01/,/B08/, /01/,/02/</p>	<p>There is no project emissions hence not applicable</p>						
<p>E.6.1.5. Component 3: Emissions thermal energy generation</p>	<p>/B01/,/B08/, /01/,/02/</p>	<p>There is no project emissions hence not applicable</p>						
<p>E.6.1.6. Component 4: On-site fossil fuel consumption due to the project activity other than for electricity generation</p>	<p>/B01/,/B08/, /01/,/02/</p>	<p>There is no project emissions hence not applicable</p>						
<p>E.6.2. Equations, including fixed parametric values, to be used for calculation of emission reductions of a CDM-CPA:</p>								
<p>E.6.2.1. Are the formulae required for the determination of emission reductions correctly presented, enabling a complete identification of parameters to be used and / or monitored?</p>	<p>/B01/,/B08/, /01/,/02/</p>	<p>Equations are correctly presented. According to the baseline methodology AMS.II.J. Version 04, Emission reduction is net electricity savings(NES) times the emission factor calculated in accordance with provisions under AMS.I.D.</p> $ER_y = NES_y * EF_{CO2,ELEC,y}$ <p>The electricity saved by the project activity in year y is calculated as follows:</p> $NES_y = \sum_{i=1}^n Q_{PJ,i} \times (1 - LFR_{i,y}) \times ES_i \times \frac{1}{(1 - TD_y)} \times NTG$ $ES_i = (P_{i,BL} - P_{i,PJ}) \times O_i \times 365 / 1000$ <p>Where</p> <table border="1" data-bbox="1030 1284 1915 1393"> <tr> <td data-bbox="1030 1284 1249 1332">4.1.1.1 NES_y</td> <td data-bbox="1249 1284 1915 1332">4.1.1.2 Net electricity saved in year y (kWh)</td> </tr> <tr> <td data-bbox="1030 1332 1249 1393">QPJ,i</td> <td data-bbox="1249 1332 1915 1393">Number (quantity) of pieces of equipment (CFLs) of type i distributed or installed under the project activity</td> </tr> </table>	4.1.1.1 NES_y	4.1.1.2 Net electricity saved in year y (kWh)	QPJ,i	Number (quantity) of pieces of equipment (CFLs) of type i distributed or installed under the project activity	<p>GL-6</p>	<p><input checked="" type="checkbox"/></p>
4.1.1.1 NES_y	4.1.1.2 Net electricity saved in year y (kWh)							
QPJ,i	Number (quantity) of pieces of equipment (CFLs) of type i distributed or installed under the project activity							

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		<p>(units). In total for all "i", this value shall be equal to or less than the documented number of all baseline incandescent lamps destroyed. Once all of the project CFLs are distributed or installed, QPJ,i is a constant value independent from y</p> <p>i Counter for equipment type</p> <p>n Number of types of equipment i</p> <p>ESi Estimated annual electricity savings for equipment of type i, for the relevant technology (kWh)</p> <p>LFRi,y Lamp Failure Rate for equipment type i in year y (fraction)</p> <p>TDy Average annual technical grid losses (transmission and distribution) during year y for the grid serving the locations where the devices are installed, expressed as a fraction. This value shall not include non-technical losses such as commercial losses (e.g., theft/pilferage).</p> <p>NTG Net-to-gross adjustment factor, a default value of 0.95 is to be used unless a more appropriate value based on a lighting use survey from the same region and not older than 2 years is available</p> <p>Pi, BL Rated power of the baseline lighting devices of the group of "i" lighting devices (Watts)</p> <p>Pi, PJ Rated power of the project lighting devices of the group of "i" lighting devices (Watts)</p> <p>Oi Average daily operating hours of the lighting devices replaced by the group of "i" lighting devices, use 3.5 hours per 24 hour period as the default value.</p>											
<p>E.6.2.2. Are the equations, including fixed parametric values, to be used for calculation of emission reductions of a CDM-CPA, completely presented?</p>	<p>/B01/,/B08/, /01/,/02/</p>	<p>Fixed parametric values are as below</p> <table border="1" data-bbox="1043 1082 1760 1390"> <tr> <td data-bbox="1043 1082 1182 1225">EFCO2, ELEC,y</td> <td data-bbox="1182 1082 1585 1225">4.1.1.3 Emission factor for the electricity displaced from the grid calculated in accordance with AMS-I.D version 17</td> <td data-bbox="1585 1082 1760 1225">4.1.1.4 0.63</td> </tr> <tr> <td data-bbox="1043 1225 1182 1353">Oi</td> <td data-bbox="1182 1225 1585 1353">Average daily operating hours of incandescent light bulbs replaced (Hours per 24 hrs period)</td> <td data-bbox="1585 1225 1760 1353">3.5</td> </tr> <tr> <td data-bbox="1043 1353 1182 1390">NTG</td> <td data-bbox="1182 1353 1585 1390">Net-to-gross adjustment factor</td> <td data-bbox="1585 1353 1760 1390">0.95</td> </tr> </table>	EFCO2, ELEC,y	4.1.1.3 Emission factor for the electricity displaced from the grid calculated in accordance with AMS-I.D version 17	4.1.1.4 0.63	Oi	Average daily operating hours of incandescent light bulbs replaced (Hours per 24 hrs period)	3.5	NTG	Net-to-gross adjustment factor	0.95		
EFCO2, ELEC,y	4.1.1.3 Emission factor for the electricity displaced from the grid calculated in accordance with AMS-I.D version 17	4.1.1.4 0.63											
Oi	Average daily operating hours of incandescent light bulbs replaced (Hours per 24 hrs period)	3.5											
NTG	Net-to-gross adjustment factor	0.95											

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			- All SSC-CPA under the PoA shall use a default value of 0.95			
		Li	Average life or rated average life for equipment type <i>i</i> (hours) Determined as per the independent life-tests of the CFLs as per national or international standard. The value is fixed ex-ante	*		
		Xi	Number of operating hours per year for equipment type <i>i</i> For leap year value will be 1281hrs. Calculated @ $O_i=3.5\text{hrs/day}$	1277.5		
		TDy	Average annual technical grid losses (transmission and distribution) during year <i>y</i> . Since this cannot be ascertained with accuracy, thus the default value of 0.1, should be used by SSC-CPA, in accordance with the AMS-II.J version 4.	0.1		
		A clarification request was raised in regards to calculate Emission factor for the electricity displaced from the grid.. The PP provided the response and the same was resolved				<input checked="" type="checkbox"/>
E.6.3. Data and parameters that are to be reported in CDM-CPA-DD form						
E.6.3.1.	Is the list of parameters presented in chapter E.6.3 considered to be complete with regard to the requirements of the applied methodology?	/B01/,/B08/, /01/,/02/	Yes the List is complete with regard to the requirements of the applied methodology AMS II J version 04		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.7. Application of the monitoring methodology and description of the monitoring plan						
E.7.1. Data and parameters to be monitored by each CDM-CPA						
E.7.1.1.	Is the list of parameters presented in chapter E.7.1 considered to be	/B01/,/B08/, /01/,/02/	See above in E 6.2.1 & E 6.2.2		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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complete with regard to the requirements of the applied methodology?				
E.7.2. Description of the monitoring plan for a CDM-CPA				
<p>E.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?</p>	/B01/,/B08/,/10/,/16/,/17/	<p>PP has developed a documented Monitoring Manual which describe in details the following. Carbon Check confirms that reporting system is adequate and complies with the requirement of Paragraph 166 of VVM01.2</p> <ul style="list-style-type: none"> • Approach used in this monitoring plan • Description of data required to be monitored Data variable • Reporting of data for project ER calculations • Approach to calculate Baseline EF & organizational structures and procedures for grid data collection • Monitoring Procedures for CFL and ICL Collection, Recycle and Destruction • Organizational structures & procedures to calculate, review, store and report ER calculations. Obligations of the SSC-CPA Programme Manager • Monitoring Survey & frequency. • Sampling approach & Data accuracy. • Organizational structures & procedures and protocols • CFL Distribution and Lamp Distribution Data recording guideline • Quality Control ,Quality Assurance and Emergency Preparedness • Query Reports ,Security and Fraud • Data Backup , Access Rights & Access Controls &Automated Data Cleaning • Gold Standard Indicators Monitoring Methodology 	CL-7 CL-8 CL-9	<input checked="" type="checkbox"/>
<p>E.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?</p>	B01/,/B08/,/10/,/16/,/17/	<p>Yes see above in E.7.2.2 Three Clarification requests were raised during the validation on Roles and Responsibilities, Data Management, organisation & process chart clearly defining the roles responsibilities and authority, Data collection Archiving .</p> <p>CME has developed a comprehensive Management Plan which define all responsibilities and procedures.</p>	CL-7 CL-8 CL-9	<input checked="" type="checkbox"/>

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E.7.2.3. Does the monitoring plan provide current good monitoring practice?	B01/,/B08/,/10/,/16/,/17/	Yes see above in E.7.2.2	CL-7 CL-8 CL-9	<input checked="" type="checkbox"/>
E.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	B01/,/B08/,/10/,/16/,/17/	Yes see above in E.7.2.2	CL-7 CL-8 CL-9	<input checked="" type="checkbox"/>
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.8.1.1. Is there any indication of a date when the baseline was determined?	/01/	Yes it is 02 March 2012	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.8.1.2. Has dd/mm/yyyy format been used to indicate the date?	/01/	Yes the date format is used	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.8.1.3. Is this consistent with the time line of the PoA-DD history?	/01/	Yes It is in line with POA-DD History	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.8.1.4. Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	/01/	Yes The name of person is Gbemi Cassandra Jayesimi and her web address is mentioned. www.icimi.com	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.8.1.5. Is information provided whether this person / entity are also considered a project participant?	/01/	Yes it is consistent with the other information	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F. ANNEXES 1 – 4				
F.1. Annex 1: Contact Information				
F.1.1. Is the information provided consistent with the one given under section A.3?	/01/	Information provided consistent with the one given under section A.3.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.2. Is the information on all private participants and directly involved Parties presented?	/01/	Yes the information is complete and consistent	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.2. Annex 2: Information regarding public funding				
F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation	/01/	Yes the information is complete and consistent. There is no public funding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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	presented by the project participants?				
F.2.2.	If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	/01/	Yes the information is complete and consistent. There is no ODA funding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3. Annex 3: Baseline information					
F.3.1.	If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PoA-DD?	/01./B09/	The latest version of AMS I.D is used to calculate the baseline Grid Emission Factor. To determine Grid Emission Factor, three parameters were applied, namely: Operating Margin (OM), Build Margin (BM) and Combined Margin (CM).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.2.	Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	/01./B09/	National Grid of Nigeria is identified as connected electricity system for grid emission factor estimation. The SSC-CFA will distribute CFLs to households serve by the Nigerian national electricity grid. Yes The DOE has been provided all the data and is verifiable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.3.	Does the additional information substantiate / support statements given in other sections of the PoA-DD?	/01./B09/	It is consistent with other sections of POA-DD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4. Annex 4: Monitoring information					
F.4.1.	If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PoA-DD?	/01./B08/ /17/	In this section the survey principles have been detailed. According to paragraph 20 of AMS-II.J version 4, the following survey principles shall be followed, determining <ul style="list-style-type: none"> (i) 1st ex-post monitoring survey to determine the quantity of CFLs (QPJ,i) (ii) Ex-post CFL Monitoring Survey to assess failure rate (LFR,y) <ul style="list-style-type: none"> • The sampling size shall be determined by minimum 90% confidence interval and the 10% maximum error margin; the size of the sample shall be no less than 100; • Sampling will be statistically robust and relevant i.e., the survey has a random distribution and is representative of target population (size, location); • The method to select respondents for interviews shall be random; • The survey shall be conducted by site visits; 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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		<ul style="list-style-type: none"> Only persons over age 12 shall be interviewed during survey; The project document shall contain the design details of the survey. 			
F.4.2.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	/01/,/B08/ /17/	Yes a calculation and a spreadsheet has been provided	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.3.	Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PoA-DD?	/01/,/B08/ /17/	Yes it substantiate with the PDD and same are verify able	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Table 2 Resolution of Clarification and Corrective Action Requests

Requests by validation team	Ref. to table 1	Summary of programme owner response	Validation team Conclusion
CLARIFICATION REQUESTS			
CL-1 It is not clear from PDD how the households in Nigeria are dependent upon wood and biomass for their lighting needs.	A.4.2.1	The assertion on the use of biomass and wood has been taken out of the PoA-DD and CPA-DD documents	PDD stands revised. <input checked="" type="checkbox"/>
CL- 2 The project participant is requested to submit a letter of approval from United Kingdom as Annex I participant	-	LoA from the UK DNA, dated 23/11/12, has been forwarded to Carbon Check by email on 28/Nov/2012	Yes the LOA have been submitted , additionally a confirmation has been also received from UK DNA <input checked="" type="checkbox"/>
CL-3 Please submit the procurement plan for the CFLs for the POA	B.1.1	MOU between ICIMI and Philip Lighting, Hong Kong, for the supply of CFLs that will be used in the project was signed on 21 September 2012. MOU was forwarded to Carbon Check on 28/Nov/2012	MOU has been submitted between ICIMI and Philip Lighting, Hong Kong. This will be followed with framework agreement <input checked="" type="checkbox"/>
CL-4 Why "For First of its Kind" project activity, EB68 annex 27 & 28 guidance is not used	E.4.1.3	Additionality of the PoA has been described under: <u>EB 69 Annex 7 "Guidelines on additionality of first-of-its-kind project activities" v.2. According to EB 69 Annex 7:</u> A proposed project activity is the first-of-its-kind in	Additionality section of PDD has been revised. The FOIK has been established as per EB 69 Annex 07 version 02. The information indicated through web links confirms that the project is FOIK. POA-DD

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		<p>the applicable geographical area if:</p> <ul style="list-style-type: none">A. The project is the first in the applicable geographical area that applies a technology that is different from technologies that are implemented by any other project, which are able to deliver the same output and have started commercial operation in the applicable geographical area before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of the proposed project activity, whichever is earlier;B. The project implements one or more measures including <u>energy efficiency improvements</u>;C. Project participants selected a crediting period for the project activity that is a maximum of 10 years with no option of renewal. <p><u>Respond to point (A)</u> There is no energy efficient project utilising CFL on a large scale that is currently in commercial operation in Nigeria. This project activity is a first-of-its-kind.</p> <p>The proposed PoA is the first and only energy efficiency project utilising CFLs on a large scale (up to 40 million CFLs will be distributed to residential households under the PoA) in Nigeria. Therefore, condition of point A has been met.</p> <p><u>Response to (B)</u> The PoA and any SSC-CPA that is developed under it shall utilise energy efficiency improvement technology/measure - CFLs</p>	<p>has been revised. <input checked="" type="checkbox"/></p>
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		<p><u>Respond to point (C)</u> Under AMS-II.J version 4, Certified Emission Reductions can only be earned for the average life of project CFLs, not to exceed one crediting period of up to 10 years. The crediting period for this PoA is a maximum of 10 years with no option of renewal therefore the condition of point (b) has been met.</p> <p>Since the project activity has been identified as a first-of-its-kind (as both conditions (A) and (B) have been met), the project is additional in accordance with version 01 of the 'EB 69 Annex 7 "Guidelines on additionality of first-of-its-kind project activities" v.2'</p> <p>Section A.4.3 of the PoA-DD and Section B.3 of the CPA-DD have been updated accordingly.</p>	
<p>CL-5</p> <ol style="list-style-type: none"> 1) Please provide all supporting documents for the barriers listed in PDD. 2) Please provide the financial spreadsheet used for demonstrating Investment barrier faced by the project. As mentioned on page 16 of PDD 3) Please provide evidences & rational for all the input values used in the spreadsheet. 	<p>E.5.2.6</p>	<p>Supporting documents for the barriers are cited in the footnotes of the relevant pages of the PoA-DD, and the links to internet pages are provided below. Financial spread-sheet used to demonstrate investment barrier faced by the project is: project investment analysis .xls Column C of the Input sheet of excel file: project investment analysis .xls, consist of evidence and rationa for all input used to calculate investment analysis.</p> <p>Links to supporting documents for the barrier analysis: Income barrier: http://siteresources.worldbank.org/DATASTATISTICS/Resources/GNIPC.pdf http://www.tradingeconomics.com/nigeria/poverty-headcount-ratio-at-dollar2-a-day-ppp-percent-of-population-wb-data.html</p> <p>Information barrier:</p>	<p>Further Response by DOE</p> <p>The barriers are duly supported by the evidences available in public domain</p> <p>The validation of project investment analysis .xls could not be completed due to following reasons:- The sheet is locked and do not show how the cells are linked. There are no evidences submitted for the value except few inactive links. All cells either should be linked or show explicit formulas and basis of the values used along with supporting evidences /active links.</p> <p>Further Response by DOE The input values for NPV calculations are estimated from the reliable sources and calculation are found to be appropriate and conservative <input checked="" type="checkbox"/></p>

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		<p>http://www.credcentre.org/Publications/EE%20Survey%20Nigeria.pdf</p> <p>Technological Barrier: http://www.oecd.org/dataoecd/46/12/37671771.pdf http://www.ng.undp.org/energy/EE-project-document.pdf</p> <p>Behavioural Barrier (Prevailing Practises): http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Nigeria%20Energy%20sector%20Reform%20Program.pdf http://www.credcentre.org/Publications/EE%20Survey%20Nigeria.pdf</p> <p>Barrier due to Institutional Capacity: http://www.credcentre.org/Publications/EE%20Survey%20Nigeria.pdf</p> <p>Investment Barrier: Please refer to project investment analysis .xls for investment barrier faced by the project.</p> <p>Further Response by PP Excel Spread-sheets have been unlocked and sent to Carboncheck on 06/Dec/12</p>	
<p>CL-6 In spread sheet "ICIMI PoA Calculation Carbon Check" clarify the rationales behind selecting the following values</p> <p>I. For calculation of the combined margin emission factor the data used is pertaining to 2004-2008. Why the data for the most recent years is not used.?</p> <p>What are the basis on which OM:BM ratio is taken as 50:50Why Why the ex ante determined value is not</p>	<p>E.6.2.1</p>	<p>(i) The PoA used the Annual Technical Grid data 2004-2008 because the data was the most recent consecutive data that was publicly available at the time (April 2012) of submission of the CDM-PDD to the DOE for validation. The 2009 Annual Grid data was not publicly published while the 2010 Annual Grid report that was publicly available was watermarked " under review"</p> <p>(ii) A) The rational for the chosen OM:BM ratio of 50:50 is based on the "Tool to calculate</p>	<p>The response is accepted OK <input checked="" type="checkbox"/></p> <p>The response is accepted OK <input checked="" type="checkbox"/></p>

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<p>chosen for life of lamps instead of 12000 hrs? Why 50 has been chosen as value for Ri?</p> <p>II. How the mix % of wattage has been arrived at and is it the most conservative?</p>		<p>emission factor for an electricity system, version 2.2.1”: According to the tool:</p> <p>“for all project other than wind and hydro, the default weights are as follows: $w_{OM} = 0.5$ and $w_{BM} = 0.5$ for the first crediting period, and $w_{OM} = 0.5$ and $w_{BM} = 0.75$ for the second and third crediting period, unless otherwise specified in the approved methodology which refers to this tool”</p> <p>The PoA is an energy efficiency project utilising CFLs (no hydro or wind) under AMS-II.J methodology and therefore the 50:50 (default) OM:BM rule is applicable.</p> <p>Section E.6.2 of the PDD has been updated to include the following comment: “for all project other than wind and hydro, the default weights are as follows: $w_{OM} = 0.5$ and $w_{BM} = 0.5$ for the first crediting period, and $w_{OM} = 0.5$ and $w_{BM} = 0.75$ for the second and third crediting period, unless otherwise specified in the approved methodology which refers to this tool”</p> <p>B) Average rated value of 10,000 hours CFL has been used for ex ante estimate of LFR.</p> <p>Therefore, For ex ante estimate of LFR, given 10,000 hours of rated lifetime of CFLs and bulb usage of 3.5 hours/day, the $LFR_{i,y}$ should be 6.39% for the first 12 months after installation of CFLs and increasing thereafter.</p> <p>The PoA-DD and SSC-CPA and all calculations have been corrected</p>	<p>The response is accepted OK <input checked="" type="checkbox"/></p>
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		<p>accordingly.</p> <p>(iii) 50 is a default value specified in paragraph 14 of AMS-II.J version 4 and used to calculate LFR (lamp failure rate) ex ante. The Lamp Failure Rate (LFR_y) is the % of lamps that have failed during a year. R_i (50) is % of lamps of type <i>i</i> operating at the end of average life or the rated average life.</p> <p>The PoA and CPA documents have used 50% to calculate LFR_i ex ante because the value (50) is the percentage at which the project life will end i.e. half of the bulbs will fail at 10,000 hours.</p> <p>(iv) The mix of CFL wattage is based on the findings of the feasibility study as well as a study carried out by CREDC which described the pattern of wattage used in the average home in Nigeria. The feasibility study found that majority of households preferred and used 100 and 60 watts ICL due to their brightening effect. Very few households, less than 4%, were found to use 40 and 75 watts ICLs. Therefore, the mix of ICL wattages used in the PoA reflects the light (wattage) use pattern in the average home in Nigeria.</p> <p>The wattages of CFLs that will replace ICLs have been chosen conservatively (e.g. to replace 100 w ICL, manufacturer recommendation is 20-23 watt CFL; the CPA indicate using 20w), reflecting the dominant ICL wattages used in the host nation without compromising on lumen efficacy.</p>	
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<p>CL-7 Please submit a detailed documented procedure on how the data will be collected ,backed up, compiled ,reviewed , audited and stored</p> <p>a) At day to day basis b) At POA & CPA level respectively</p> <p>emergency preparedness for the measurement of data</p>	<p>E.7.2.2 E.7.2.3 E.7.2.4</p>	<p>Please refer to the following documents which were submitted to Carbon Check on 28/Nov/2012: CME Monitoring Plan 27 Nov 2012.pdf PoA Project Plan 27 Nov 2012.pdf CPA Project Plan 26 Nov 2012.pdf</p> <p>Specifically, the CME monitoring plan discusses the process, procedures and rules to be followed by all participants in the project particularly the SSC-CPA implementers. The SSC-CPA implementer will follow the rules in the CME monitoring plan regarding data collection, compilation, review, audit and storage.</p>	<p>A comprehensive Monitoring plan has been developed , which details roles responsibility, and parameters to be measured including , compiled and storage of the same on POA and CPA Levels . The procedure also includes emergency preparedness for Data storage and management OK☑</p>
<p>CL-8 The project participant is requested to clarify how collection and archiving of data relevant to the Gold standard indicators identified during Stakeholder process will be carried out and why are they not part of POA-DD</p>	<p>E.7.2.2 E.7.2.3 E.7.2.4</p>	<p>Page 26 to 32 of the monitoring plan document: CME Monitoring Plan 27 Nov 2012.pdf - describes the procedures for collecting, archiving and monitoring of data relevant to Gold Standard indicators.</p> <p>Also, section E.7.2 of the PoA-DD now includes a section on Gold Standard indicators and monitoring guidelines.</p> <p>Response to new query: Under Gold Standard, CFLs can have detrimental effects on the environment if they are not properly disposed due to their mercury content. For example if used CFLs are not properly disposed or recycled the implication is that they will be deposited in dumpsite or unmanaged landfill and river where they will proceed to the wider environment contaminating the soil and water stream as well as causing odour and affecting air quality during flaring of unmanaged landfill.</p> <p>Monitoring of air and water quality and soil condition is difficult however if all or nearly all spent CFLs are recycled hence ensuring that mercury is not released into the environment, it follows that air, soil and water quality will not worsen as a result of</p>	<p>Further Response by DOE Gold standard indicators are included the part of Monitoring Plan but it is not clear how the following indicators are related to this project and how the same will be monitored?</p> <ol style="list-style-type: none"> 1. Air quality 2. Water quality and Quantity 3. Soil Condition <p>The clarification is accepted.☑</p>

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		<p>CFLs utilised by the project. So therefore, we monitor the amount of mercury released from spent CFLs that were not recycled. By keeping an audit of CFLs that are destroyed by recycling, and comparing them to the CFLs that are distributed under the project and in operation, we can ascertain and monitor the CFLs (and therefore the mercury released by those CFLs) that made it into the wider environment, if any.</p> <p>Further Response by PP The monitoring methodology for the indicators has been submitted to Gold Standard, and Gold Standard have reviewed the monitoring plan and are ok with it.</p>	
<p>CL-9 The project participant is requested to submit an organisation & process chart clearly defining the roles and responsibilities</p> <ul style="list-style-type: none"> a) of personnel involved in the operation and management of POA b) of personal involved in inclusion of CPAs. c) of personal reviewing personnel's competencies. d) On continual improvements and accurate monitoring of POA/CPA 	<p>E.7.2.2 E.7.2.3 E.7.2.4</p>	<p>Please refer to the following documents which were submitted to Carbon Check on 28/Nov/2012: PoA- Project Plan 27 Nov 2012.pdf CPA – Project Plan 27 Nov 2012.pdf CME Monitoring Plan 27 Nov 2012.pdf</p>	<p>The Roles and responsibility for each of its activity from distribution to Monitoring have been detailed in all the manuals <input checked="" type="checkbox"/></p>

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CORRECTIVE ACTION REQUESTS																																										
<p>CAR -1 POA-PDD and CPA-PDD do not describe the wattage of CFL which will be distributed in lieu of the wattages of incandescent lamps</p>	<p>A.4.2.1</p>	<p>Table 1 describes the wattages of CFLs that will be distributed in lieu of the wattages of ICL in the SSC-CPA. Section A.2 of SSC-CPA-DD has been updated as per table 1 below:</p> <table border="1" data-bbox="1070 363 1541 555"> <caption>TABLE 1</caption> <thead> <tr> <th>ILB</th> <th>CFL</th> </tr> </thead> <tbody> <tr> <td>40 Watts</td> <td>11 Watts</td> </tr> <tr> <td>60 Watts</td> <td>13 Watts</td> </tr> <tr> <td>75 Watts</td> <td>18 Watts</td> </tr> <tr> <td>100 Watts</td> <td>20 Watts</td> </tr> </tbody> </table> <p>Table 2 shows the range of CFL wattages as per lumen output under the PoA. Each SSC-CPA under the PoA shall decide the exact wattage. Sections A.4.2.1 and E.6.1 of the PoA –DD have been updated accordingly.</p> <table border="1" data-bbox="1061 769 1541 1311"> <caption>TABLE 2 AMS-II.J version 4 Light Output Requirements</caption> <thead> <tr> <th>Baseline Technology – Incandescent Lamp (Watt)</th> <th>Minimum Light Output (Lumen)</th> <th>Compact Fluorescent Lamps (*Watts)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>230</td> <td>5-7</td> </tr> <tr> <td>40</td> <td>415</td> <td>9-11</td> </tr> <tr> <td>50</td> <td>570</td> <td>11-12</td> </tr> <tr> <td>60</td> <td>715</td> <td>13-15</td> </tr> <tr> <td>75</td> <td>940</td> <td>17-18</td> </tr> <tr> <td>90</td> <td>1,227</td> <td>18-19</td> </tr> <tr> <td>100</td> <td>1,350</td> <td>20-23</td> </tr> <tr> <td>150</td> <td>2,180</td> <td>37-39</td> </tr> <tr> <td>200</td> <td>3,090</td> <td>50-55</td> </tr> </tbody> </table> <p>Further Response by PP:-1 The footnotes in the PoA showing ibid have been replaced with full weblinks.</p>	ILB	CFL	40 Watts	11 Watts	60 Watts	13 Watts	75 Watts	18 Watts	100 Watts	20 Watts	Baseline Technology – Incandescent Lamp (Watt)	Minimum Light Output (Lumen)	Compact Fluorescent Lamps (*Watts)	25	230	5-7	40	415	9-11	50	570	11-12	60	715	13-15	75	940	17-18	90	1,227	18-19	100	1,350	20-23	150	2,180	37-39	200	3,090	50-55
ILB	CFL																																									
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50	570	11-12																																								
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75	940	17-18																																								
90	1,227	18-19																																								
100	1,350	20-23																																								
150	2,180	37-39																																								
200	3,090	50-55																																								
<p>Further Response by DOE-1</p> <p>The Foot note in PDD “Ibid” should be made more transparently referred. Please give complete description of document /weblink</p> <p>In A.4.2.1 The PDD uses 8000 Hrs while in all other documents including investment analysis the average life used is 10,000 Hrs. Please clarify</p> <p>Further Response by DOE-2</p> <p>POA_DD and SSC-CPA have been revised to include the information.☑</p>																																										

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		<p>The 8,000 hours in the PoA-DD is the minimum rated or average rated hours CFL that can be used by CPAs under the PoA. According to the PDD document, the CFL that will replace ICL will have a rated average life that range from 8,000 hours, each SSC-CPA will decide the exact average/rated average hours to utilize. Although in order to increase the amount of CERs and hence the time period of each SSC-CPA, CPAs under the PoA are most likely to utilize CFLs with 10,000 hrs or more. The 8,000 hrs only represent the bear minimum under the PoA.</p> <p>10,000 hrs used for the Investment analysis is an average figure based on the assumption that the rated or average rated life of CFLs that will be utilized under the project will vary from one CPA to the other. For instance, CPA1 may decide to utilize CFLs with rated or average rated life of 12,000hrs while CPA2 may use 8,000hrs.</p> <p>However, in the interest of clarity and consistency and to ensure long life of CFLs utilized under the programme we have now used a minimum of 10,000 average/rated average hour in the PoA</p>	
<p>CAR-2 PDD does not give any details of other CFL distribution programmes in the country.</p>	<p>A.2</p>	<p>Section A.4.3 of PoA-DD has been updated and describe the current UNDP sponsored CFL distribution Pilot scheme in Nigeria. The UNDP's initiative is a pilot scheme that will distribute 1 million CFLs to middle income household and commercial buildings in Abuja, the Federal Capital of Nigeria</p> <p>Section A.4.3 of the PoA describes in detail the relative small scale of the UNDP scheme and the target audience compared to the PoA. The PoA concludes that the UNDP's scheme is different from the proposed PoA in term of scale and end-user.</p>	<p>Section A.4.3 of PoA-DD has been suitably amended and it has now information on other similar programmes running in the country. <input checked="" type="checkbox"/></p>

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<p>CAR-3 Summary of comments received during Stakeholder process are not included in the PDD Annex V is missing.</p>	<p>D.1.5</p>	<p>Annex 5 of PoA-DD has been updated for summary of comments received from stakeholders during stakeholder consultations, and project proponent's response.</p>	<p>Annex V of the POA –DD now includes the comments and PPs responses how they were accounted has been included. POA_DD have been revised to include the information. <input checked="" type="checkbox"/></p>
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Table 3 Unresolved Corrective Action and Clarification Requests

Forward action request	Reference to Table 1	Response by project participants	Validation Conclusion
	-	-	

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APPENDIX B CERTIFICATE OF COMPETENCE



VALIDATION REPORT

CDM VALIDATION REPORT NO. CCL0021/LGEP/10112011



VALIDATION REPORT

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