

PoA Title	Small Scale Renewable Energy Carbon Programme (SRECP)
Real Case CPA Title	Toitdale 9.52 MW Concentrated Photovoltaic Project (CPA-001)
ERM CVS Project Reference	2346.V1
Client Name	Climate Corporation Emissions Trading GmbH
Client Address	Marchetstrasse 59, Baden, A-2500, Austria

CDM Validation Report

ERM Certification and Verification Services

2nd Floor, Exchequer Court
33 St Mary Axe
London EC3A 8AA

Version Control	Date
Version 1.0	31 August 2012 (Draft Report)
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Table of Contents

1	PoA Information.....	5
1.1	Key information.....	5
2	Summary and Validation Opinion.....	6
3	Introduction.....	8
3.1	Validation Objectives	8
	Validation Criteria.....	8
3.2	Scope	8
3.3	Contract Review	8
3.4	Validation Personnel.....	8
3.5	Summary of CVs of the validation personnel.....	9
4	Validation Approach.....	10
4.1	Global Stakeholder Process	10
4.2	Document Review.....	10
4.3	Site visit and Interviews	10
4.4	Preparation of Draft Validation Report.....	11
	Remediation requests	11
4.5	Final Validation Report and Validation Opinion.....	11
4.6	Internal Quality Control	11
5	Validation findings – Approval & Participation, Authorisation, Contribution to Sustainable Development, and Modalities of Communication	12
5.1	Approval & Participation	12
5.2	Authorisation.....	13
5.3	Contribution to Sustainable Development.....	14
5.4	Modalities of Communication.....	15
6	Validation findings – GSP, PDD and Project Description	16
6.1	Main changes between the PoA-DD version published for GSP and the final version submitted for registration:	16
6.2	Global stakeholder consultation.....	16
6.3	Programme of Activities Design Document (PoA-DD).....	17
6.4	PoA Description	17
	Description of the PoA.....	17
	Description of the PoA:.....	18
	PoA Boundary, Location and Status	18
	Technical description of a PoA and generic CPA.....	19
7	Validation Findings - Eligibility Criteria for Inclusion of a CPA in a PoA.....	22
7.1	Description of Eligibility Criteria	22
8	Validation findings – Baseline and Monitoring Methodology.....	28
8.1	Validity of selected methodology and methodological tools	28
8.2	Applicability of the selected methodology to the generic CPA	28
8.3	CPA Boundary.....	32
	Emission sources	32
	Emission sources not addressed by the methodology	33
8.4	Baseline identification	34
8.5	Algorithms and/or formulae used to determine emission reductions.....	35
	Ex Ante Data and Parameters.....	35
	Equations and calculations used to calculate emission reductions	36
9	Validation findings – Additionality	44
9.1	Prior consideration of the CDM.....	44
9.2	Additionality of the PoA as a whole.....	44
9.3	Identification of alternatives	45
9.4	Assessment of additionality of a CPA	45
10	Validation Findings – Operational, management and monitoring plan for the programme of activities.....	47
10.1	Operation and Management Plan	47
10.2	PoA Sampling Plan.....	49
11	Validation Findings – Monitoring plan of a Generic CPA	50
11.1	Compliance of the monitoring plan with the approved methodology	50
	Completeness of monitoring parameters.....	50
	Compliance of monitoring.....	51

11.2	Implementation of the monitoring plan.....	52
12	Validation Findings – Sustainable Development, Local Stakeholder Consultation and Environmental Impact.....	54
12.1	Sustainable Development.....	54
12.2	Local Stakeholder Consultation.....	54
12.3	Environmental Impacts.....	54
12.4	Public funding.....	55
Appendix A:	Documents and Interviewees.....	56
A.1	DOCUMENT LIST.....	56
A.2	INTERVIEWS.....	57
Appendix B:	Remediation Form.....	58

Abbreviations

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH ₄	Methane
CL	Clarification request
CME	Coordinating/Managing Entity
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
COP	Conference of the Parties
CPA	CDM Project Activity
CPA-DD	CPA Design Document
DNA	Designated National Authority
FAR	Forward Action Request
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
FSR	Feasibility Study Report
GHG	Greenhouse Gas
GSP	Global Stakeholder Process
GWP	Global Warming Potential
GWh	Giga Watt hour
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
LoA	Letter of approval
MOP	Meeting of the Parties
MP	Monitoring Plan
MW/MWh	Mega Watt/Mega Watt hour
NCV	Net Calorific Value
NGO	Non-Governmental Organisation
ODA	Official Development Assistance
OM	Operating Margin
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
PPA	Power Purchase Agreement
SCE	Standard coal equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value-added tax
VVS	CDM Validation and Verification Standard

Project/Party specific abbreviations

SRECP	Small Scale Renewable Energy Carbon Programme
IPP	Independent Power Producers
NTC	National Transmission Company
PV	Photovoltaic

1 PoA Information

1.1 Key information

PoA Title	Small Scale Renewable Energy Carbon Programme (SRECP)
PoA Location(s)	South Africa
Host Party(ies)	South Africa
Other Party(ies)	NA
Coordinating/Managing Entity	Carbon Africa Limited
Project participants	Carbon Africa Limited Climate Corporation Emissions Trading GmbH

Methodology(ies) used	AMS I.D "Grid connected renewable electricity generation" (version 17)
Methodological tool(s) used	Tool to calculate the emission factor for an electricity system (version 02.2.1)
Sectoral Scope(s) (as per http://cdm.unfccc.int/DOE/scopes.html)	Sectoral Scope 1: Energy industries (renewable - / non-renewable sources)


PoA Design Document GSP Version	Date: 06 June 2012	PoA Design Document Final Version	Date: 30 November 2012
	Version Number: 01		Version Number: 03

Expected starting date of the PoA	12 June 2012 (the date of publication of the PoA-DD for global stakeholder consultation)
Duration of the PoA	28 years

Date(s) of validation site visit	23 July 2012 – 27 July 2012
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2 Summary and Validation Opinion

PoA Title	Small Scale Renewable Energy Carbon Programme (SRECP)
Name of Client	Climate Corporation Emissions Trading GmbH
Basis of validation	<p>ERM CVS based its validation work on:</p> <ul style="list-style-type: none"> • CDM approved monitoring methodology AMS I.D "Grid connected renewable electricity generation" (version 17) • CDM Validation and Verification Standard (version 03.0) • Clean Development Mechanism Project Standard (version 02.1) • ERM CVS's internal CDM validation methodologies and protocols • CDM decisions and guidance issued by the CDM Executive Board • UNFCCC criteria for the Clean Development Mechanism • Host Country criteria for the Clean Development Mechanism
Responsibilities of ERM CVS	ERM CVS is responsible to provide a thorough independent third party assessment of the proposed CDM programme of activities (PoA) to ensure that the proposed CDM PoA meets all the identified and applicable criteria for registration of PoA under the CDM.
Responsibilities of Project participants	The CME is responsible for preparing the PoA-DD, real case CPA-DD, supporting documentation and providing all necessary evidences to support the information included in the PoA-DD and real case CPA-DD.
Activities performed	<p>ERM CVS conducted its activities in accordance with the CDM Validation and Verification Standard. The validation consisted of a review of project documentation, site visits, interviews with relevant personnel, cross checking information through other reliable sources and reporting. Validation work was based on a validation protocol that sets out relevant CDM requirements. Where necessary, Clarification Requests and Corrective Action Requests were raised and closed out with the CME. The validation work was subject to detailed Technical Review and assessment prior to submission.</p> <p>No component of the PoA was excluded from the validation.</p>
ERM CVS Conclusion	<p>ERM Certification and Verification Services (ERM CVS) has performed the validation of the PoA against the criteria for the Clean Development Mechanism as set out by the Conference of the Parties and the UNFCCC CDM Executive Board, and host country criteria. The validation employed standard auditing techniques, and addressed the requirements of the CDM Validation and Verification Standard.</p> <p>The Party involved in the project fulfils the criteria for participation in the CDM, and has issued a letter of approval (LoA) for the project and authorised the Project participants. The LoA of the host Party confirms the contribution of the PoA towards sustainable development.</p> <p>The validation has provided sufficient evidence to demonstrate that the PoA is not the baseline scenario, and that emission reductions would be additional to what would have taken place in the absence of the CDM project activity. Eligibility criteria are included that comply with the 'Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities' and ensure that CPAs can be appropriately included in the PoA.</p> <p>The PoA (and its generic CPAs) meets the applicability criteria and correctly applies methodology AMS I.D "Grid connected renewable electricity generation" (version 17), and is therefore expected to result in real, measurable and long term reductions in greenhouse gas emissions.</p> <p>The monitoring plan provides for the collection and archiving of data sufficient to ensure that emission reductions can be verified at CPA level.</p> <p>In summary, it is the opinion of ERM CVS that the PoA as described in the PoA-DD Version 03 of 30</p>

	<p>November 2012, meets all stated criteria of the CDM, correctly applies the methodology, and is expected to result in real, measurable and long term emission reductions.</p> <p>ERM CVS therefore requests the CDM Executive Board approves registration of the PoA.</p>
Signed on behalf of ERM CVS	 A handwritten signature in black ink, appearing to read "M. Eddis".
Name:	Melanie Eddis
Date:	21 December 2012

3 Introduction

3.1 Validation Objectives

The purpose of validation is to ensure a thorough, independent assessment of activities submitted for registration as a proposed CDM Programme of Activities (PoA) against the applicable CDM requirements.

The DOE is responsible for reporting the results of its assessment in a validation report and submitting this validation report, along with the supporting documents to the CDM Executive Board as part of the request for registration of a proposed CDM PoA.

The DOE also presents its opinion on the compliance of the proposed CDM PoA complies with the applicable CDM requirements, and only requests registration if this is a positive opinion.

In the course of validation, ERM CVS assesses additionality of the PoA; eligibility criteria for inclusion of a proposed CPA in the registered PoA; operational and management arrangements established by the coordinating/managing entity (CME) for the implementation of the PoA; applicability of an approved CDM methodology; monitoring plan (MP); Compliance with the relevant host country criteria; and Consistency between CDM-POA-DD and the PoA generic CDM-CPA-DD to be used for inclusion of a CPA in the registered PoA.

Validation Criteria

ERM CVS applies the following principles in performing its validation:

- Consistency
- Transparency
- Impartiality, independence and safeguarding against conflicts of interest
- Confidentiality

In all aspects of its work, ERM CVS ensures that the information and data reported are accurate, conservative, relevant, credible, reliable and complete.

3.2 Scope

The validation scope addresses the Programme of Activities as described in the Programme of Activities design document (PoA-DD), real case CDM Project Activity design document (real case CPA-DD) and associated documentation. The PoA-DD, real case CPA-DD and associated documentation are reviewed against the criteria and requirements stated in the CDM Validation and Verification Standard (VVS) and Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, as well as relevant decisions made by the CDM Executive Board.

The validation scope also included an assessment of completeness and accuracy of documentation, evaluation of evidences, information and assumptions made in the PoA-DD, real case CPA-DD and supporting documentation. Findings of the validation of the real-case CPA are described in a separate CPA validation report.

3.3 Contract Review

Prior to contracting with the client, a full review of the project and the validation requirements was made. This addressed both commercial risk and project risks associated with conducting the validation activities and confirmed the availability of an appropriately qualified team to conduct the validation.

3.4 Validation Personnel

Based on ERM CVS's review of the PoA, a validation team was established that takes into account the coverage of the technical area(s), sectoral scope(s) and relevant host country experience.

Personnel who were involved in the validation of this PoA were:

Validation Team

Name	Role	CDM Requirements	Technical area	Financial Expertise	Participated in site visit?
Neringa Pumputyte	Lead Validator	Yes	Fully Competent	No	Yes
Alastair Woods	Assessor under Training	Yes	No	No	Yes
Simon Cochrane	Financial Expert	No	No	Yes	No

DOE Head Office

Name	Role	CDM Requirements	Knowledge relevant to the technical area
Ying Li	Technical Reviewer	Yes	Fully Competent

3.5 Summary of CVs of the validation personnel

Neringa Pumputyte has been working with CDM for the past 5 years, initially as a consultant and project developer and now as a validator and verifier. Neringa has completed 6 validations and verifications as an assessor in the sectors of renewable energy, energy demand, LFG, and fugitive emissions (oil and gas). Before joining ERM CVS, Neringa worked on hydro and cook stove projects as well as numerous waste handling projects as a CDM project developer. Neringa has completed the ERM CVS CDM training, as well as gold standard methodology training. Neringa also has a BSc and MSc in Geography, and an MSc in Environmental Change and Management from the University of Oxford.

Alastair Woods has nearly a year's experience in CDM having participated in two PoA validations on successful completion of the ERM CVS CDM training. Alastair studied Development Economics at the University of Cape Town and went on to complete an MSc in Carbon Management at the University of Edinburgh. He has also completed the Gold Standard training. Previously, he has interned with the environmental consultancy Trucost, as an analyst, and as an assistant coordinator for the International Green Awards.

Simon Cochrane has 1 year of CDM experience as a Financial Expert. He has worked as FE on 40 validations, including Wind, Hydro, Waste Water and LFG projects. Simon has 11 years' experience working as a financial advisor in environmental consulting. Simon is AAT qualified, and part qualified in CIMA (relevant units include Investment Appraisal).

Ying Li is an environmental engineer with extensive practical experience in the carbon market. She has worked in carbon markets since 2006 and gained extensive experience in the development and implementation of CDM projects, working in the area of project-based mechanisms. Her background includes both project validation and verification, in different sectoral scopes, including renewable energy, waste heat and gas recovery from iron and steel plants or cement plants, landfill gas combustion and utilization projects, coal mine methane, natural gas. She has developed and managed the validation/verification of number of CDM project activities, including experiences in CDM Project Design Document (PDD) development, the monitoring system building, data QA/QC, emission reduction calculation review and documentation review, where she has obtained a good understanding of technical aspects in these sectoral scopes as well as their specific CDM aspects. Ying has completed the ERM CVS CDM training and GHGMI Renewable Energy and Landfill Training. Ying also has BEng in Environmental Engineering and a MEng in Biochemical Engineering.

4 Validation Approach

In carrying out its validation work, ERM CVS has:

- (a) Determined whether the proposed PoA complies with the requirements of paragraph 37 of the CDM Modalities and Procedures (M&Ps), the applicability conditions of the selected methodology and guidance issued by the Board;
- (b) Assessed the claims and assumptions made in the PoA Design Document (PoA-DD). The evidence used in this assessment has not been limited to that provided by the project participants.

The validation was carried out in accordance with the most recent version of the VVS and relevant EB standards and guidance for PoAs. The validation process employed standard auditing techniques and undertook necessary cross-checks and follow-up actions to ascertain the correctness of the information. The validation team included staff with experience in the relevant technical areas within the sectoral scope, and included local host country expertise, sectoral knowledge, and financial expertise. The validation report and associated documents have undergone a thorough technical review by ERM CVS before being submitted to the CDM Executive Board for registration. The validation consisted of the following key stages:

- Upload of the PoA-DD and real case CPA-DD for Global Stakeholder Process (GSP), receipt of any comments from stakeholders
- Review of documentation including PoA-DD, real case CPA-DD, methodology and key supporting documents and references
- A visit to the site of the first real case CPA, including interviews with personnel responsible for developing the project
- Development of a draft validation report, identifying non-compliances including Corrective Action Requests (CARs) and Clarification Requests (CLs), taking into account findings of the GSP, desk review and site visit / interviews
- Resolution of outstanding issues (CARs and CLs) and development of a final validation report and validation opinion
- Independent technical review and report approval

4.1 Global Stakeholder Process

At the start of the validation, in accordance with the latest version of the “Procedures for processing and reporting on validation CDM project activities”, the unvalidated PoA-DD and real case CPA-DD supplied by the client were uploaded on the UNFCCC website to be available for global stakeholder review. The GSP period was from 12 June 2012 - 11 July 2012

Any comments received were evaluated by the validation team and taken into account in the course of the validation activities.

4.2 Document Review

A detailed document review of the PoA-DD, real case CPA-DD, methodology and all other associated documentation and references took place in advance of the site visit, and additional documents that were not available for the desk review were requested for review during the site visit. The document review includes:

- A review of data and information to verify the correctness, credibility and interpretation of presented information;
- Cross checks between information provided in the PoA-DD and real case CPA-DD and information from other sources, not limited to those provided by the PPs

Where the review of the PoA-DD or real case CPA-DD at the document review stage raised issues, these were further reviewed and validated through supporting documentation and cross-checking from other sources and interviewing relevant personnel involved in the PoA and real case CPA during the site visit. During the document review the project team also compared the proposed PoA with available information relating to projects or technologies similar to the proposed CDM PoA under validation. Where appropriate, the validation team assessed the appropriateness of formulae and the correctness of calculations presented by the CME. A list of all documents reviewed or referred to in the course of this validation is included in Appendix A.

4.3 Site visit and Interviews

The site visit included a tour of the real case CPA project site, which is described in a separate CPA validation report, and interviews with the CME.

Site visits and interviews provide additional and background to the PoA as well as cross checks with other documentation. Interviews were undertaken with relevant stakeholders in the host country, as well as personnel with knowledge of the PoA design and implementation. A list of interviewees, and the main topics discussed with each person can be found in appendix A.

The site visit was designed to enable the validation team to

- undertake a detailed review of additional documentation and verify the supporting documentation;
- assess the validity of the boundary, both of the PoA and CPAs;
- cross-check the validity of the information contained in the POA-DD and real case CPA-DD with other sources of information; and
- interview relevant stakeholders involved in the PoA and real case CPA as required.

4.4 Preparation of Draft Validation Report

Based on the findings of the desk review and site visit, ERM CVS prepared a draft validation report including a list of CARs and CLs, and provided this to the PPs. Where issues are identified that need to be further elaborated, researched or added to in order to confirm that the PoA meets the CDM requirements and can achieve credible emission reductions, ERM CVS identified these issues in the DVR so that they could be discussed with the PPs and concluded upon in the final validation report (FVR).

Remediation requests

Where issues were identified, ERM CVS raised one of the following remediation requests:

Clarification Request (CL): where information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

Corrective Action Request (CAR): where:

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

Forward Action Requests (FAR): where it was necessary to highlight issues related to project implementation that require review during the first verification of the PoA. FARs shall not relate to the CDM requirements for registration.

CARs and CLs must be 'closed out' before the validation can be concluded. Close out is only possible where the PPs modify the project design, rectify the PoA-DD or provide adequate additional explanation or evidence that satisfies ERM CVS's concerns. The validation process may be halted until the CARs and CLs are addressed to the validation team's satisfaction.

4.5 Final Validation Report and Validation Opinion

The final validation report (FVR) is completed when the CARs and CLs have been closed out to the satisfaction of ERM CVS. The FVR includes the validation opinion that sets out the validation conclusion regarding the compliance of the POA with CDM requirements. Validation of the real-case CPA is reported in a separate CPA validation report.

4.6 Internal Quality Control

The process of validation and decision of the validation team has been subject to an independent Technical Review. The scope of the Technical Review process is to independently assess that all procedures have been followed, necessary requirements have been met, and all conclusions are justified. The final validation decision is based on the findings and conclusions of the validation team, assessing the compliance of the PoA with the CDM requirements, and the technical evaluation of the independent technical reviewer. The final report is then reviewed and approved by the qualified signatory / final decision maker within ERM CVS.

5 Validation findings – Approval & Participation, Authorisation, Contribution to Sustainable Development, and Modalities of Communication

5.1 Approval & Participation

As per VVS section 7.6, ERM CVS assessed whether the DNA of each Party indicated as being involved in the PoA has provided an appropriate letter of approval (LoA).

ERM CVS has confirmed that the LoA has been issued and provides confirmation of:				
Party	Ratified Kyoto Protocol?	Voluntary Participation	Contribution to Sustainable Development	Exact project title
South Africa (Host Party)	Yes	Yes	Yes	Yes

ERM CVS received the LoA from the CME, Carbon Africa Limited. The authenticity is not doubted.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/CAR/ CL	Final OK/ NOT OK
5.1.1	Are LoAs in place for every host country, covering all PPs, that confirm <ul style="list-style-type: none"> Ratification of the Kyoto Protocol Voluntary Participation Reference to the precise title in the PoA-DD Contribution to sustainable development (host party only) 	<p>The LoA was not provided at the time of the site visit – CAR 1 was raised.</p> <p>Subsequently the LoA for the host party, South Africa, has been provided /2/. The LoA states that South Africa has ratified the Kyoto Protocol and participate voluntarily in CDM and this PoA. The South African LoA states that the PoA will contribute towards sustainable development and the LoA references the exact PoA title. CAR 1 was closed.</p>	CAR-1	OK
5.1.2	Is the information in the LoAs consistent with the other project documentation, including PP names, etc	<p>At the time of the site visit, this was pending CAR 1.</p> <p>The South Africa LoA /2/ correctly references the project participants, Carbon Africa Limited and Climate Corporations Emissions Trading GmbH, and correctly references the project title, Small Scale Renewable Energy Carbon Programme (SRECP). The names and title are consistent with the PoA-DD and Modalities of Communication (MoC) /03/.</p>	CAR-1	OK

ERM CVS also reviewed whether the LoAs contain any additional specifications:

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/CAR/ CL	Final OK/ NOT OK
5.1.3	Does any LoA contain additional specification or conditions of the PoA? If so, are these conditions fully complied with?	<p>At the time of the site visit, this was pending CAR 1</p> <p>The South Africa LoA includes the following conditions:</p> <ul style="list-style-type: none"> The Project (PoA) must be developed in accordance with the Project 	CAR-1	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/CAR/ CL	Final OK/ NOT OK
		<p>Design Document received by the DNA;</p> <ul style="list-style-type: none"> The project must obtain all relevant authorisations as required by national laws <p>The PoA design is validated in this validation report, and implementation will be confirmed during the verification. The PoA itself does not need any authorisations other than this LoA. The CPAs to be included under this POA will be checked for compliance with national regulations as part of the CPA inclusion process, and furthermore no CPA may win in the competitive bidding process without having all necessary authorisations, as confirmed by reviewing the Qualification criteria of Tender DOE/001/2011/2012 /10/.</p>		
5.1.4	<p>If any LoA references a specific version of the Validation Report and this version cannot be submitted, then has either of the following been submitted?</p> <ul style="list-style-type: none"> a statement indicating final LoA has not been received or an updated Validation Report 	<p>At the time of the site visit, this was pending CAR 1</p> <p>Not applicable. There is no reference to any version of the validation report in the South Africa LoA.</p>	CAR-1	OK

Conclusion

ERM CVS confirmed that the LoA has been received from the only party involved in this PoA (South Africa).

ERM CVS's validation of the approval status of the PoA confirmed that:

- The Party is a Party to the Kyoto Protocol
- Participation is voluntary
- As the Party involved is also the Host Party, the PoA contributes to the sustainable development of the country
- The title of the PoA is identical in the LoA /2/ and the PoA-DD /1/.

ERM CVS therefore confirms that the LoAs are in accordance with paragraph 38-44 of the VVS **Authorisation**

As per VVS section 7.7, ERM CVS evaluated whether all PPs are listed in a consistent manner in section A.3 of the PoA-DD and have been appropriately authorised by a Party to the Kyoto Protocol. ERM CVS also checked the consistency of information between the PoA-DD, Letters of Approval (LoAs) and the Modalities of Communication (MoC).

PPs (list all)	Is the PP listed in Section A.3 of PDD?	Are contact details given in Annex 1 of PDD?	Does the LoA name the authorised PP?	Is information in the MoC consistent with PDD and LoA?
Carbon Africa Limited (also CME)	Yes	Yes	Yes	Yes
Climate Corporation Emissions Trading GmbH	Yes	Yes	Yes	Yes

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/CAR/ CL	Final OK/ NOT OK
5.2.1	Is the correct information provided on PPs, and consistently applied in section A and Appendix 1 of the PoA-DD and other project documentation (Letters of Approval and Modalities of Communication)?	<p>At the time of the site visit and draft report, the MoC had not been provided – CAR 2 was raised</p> <p>The MoC has now been provided to ERM CVS and reviewed by the validation team /03/. The MoC form was filled in correctly. CAR 2 was closed.</p> <p>The contact details of the project participant Climate Corporation Emissions Trading GmbH were not included in Appendix 1 of the GSP PoA-DD. CAR 3 was raised.</p> <p>The contact details of the project participant Climate Corporation Emissions Trading GmbH have now been correctly included in Annex 1 of the revised PoA-DD /1/. CAR 3 was closed.</p> <p>Consistency with the LoA and MoC could not be checked at draft validation report stage as the LoA and MoC had not been provided – please see CAR 1 and CAR 2</p> <p>Following receipt of the LoA and MoC, ERM CVS confirmed that the correct information on PPs, and the correct project title, is provided in the MoC /03/, the LoA /2/, and section A and Appendix 1 of the PoA-DD /1/.</p>	<p>CAR-3</p> <p>CAR-2</p> <p>CAR-1</p>	OK
	Can it be confirmed that there are no entities other than those approved as PPs included in section A or Appendix 1 of the PoA-DD.	<p>At the time of the site visit and draft validation report this was pending closure of CAR 2.</p> <p>Based on interviews on site and document review, ERM CVS confirm that there are no entities other than the PPs, Carbon Africa Limited and Climate Corporation Emissions Trading GmbH, which have been included in either Section A.3 or Appendix 1 of the PoA-DD /1/.</p>	CAR-2	OK
	Does the host party wish to be considered a Project Participant? If so, is this correctly presented in the PDD?	<p>At the time of the site visit and draft report this was pending closure of CAR 1</p> <p>ERM CVS confirms that the host party does not wish to be considered a Project Participant, based on the LoA /2/ from South Africa. This is correctly presented in the PoA-DD /1/ in Section A.4.</p>	CAR-1	OK

Conclusion

All PPs to the PoA have been approved by a party to the Kyoto Protocol, and ERM CVS has reviewed the letters of approval to confirm this. The PPs are listed in a consistent manner in the PoA-DD and all related project documentation, including the LoA of host country and Modalities of Communication. No entities other than those approved as PPs are included in section A.3 or Appendix 1 of the PoA-DD.

5.2 Contribution to Sustainable Development

As per VVS section 7.8, ERM CVS evaluated whether the letter of approval by the DNA of the host Party confirms the contribution of the proposed CDM project activity to the sustainable development of the host Party.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
5.3.1	Does the LOA from the Host Party confirm that the project activity contributes to the sustainable development of that country?	<p>At the time of the site visit and draft report the LoA had not yet been provided – please see CAR 1</p> <p>Subsequently the LoA has been provided and reviewed. The Host Party, South Africa, confirm in the LoA /2/ that the project activity supports sustainable development in South Africa.</p>	CAR-1	OK

5.3 Modalities of Communication

As per VVS section 7.9, ERM CVS validated that the MoC statement has been correctly completed and duly authorised. ERM CVS also validated the corporate identity of all project participants and focal points included in the Modalities of Communication (MoC) statement, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/CAR/ CL	Final OK/ NOT OK
5.4.1	Are all corporate and personal details in the MoC, including specimen signatures, correct?	At the time of the site visit and draft report the MoC had not been provided – Please see CAR 2 Subsequently Modalities of Communication has been provided /03/, and ERM CVS confirmed through document review /15.1 – 15.5/ and interviews onsite, that all the correct corporate and personal details, and correct specimen signatures, are included. CAR 2 was closed	CAR-2	OK
	Has the MoC statement been correctly completed, including: <ul style="list-style-type: none"> Using the latest form? All information, including annex 1, has been correctly provided? Listing all PPs? 	At the time of the site visit and draft report the MoC had not been provided – Please see CAR 2 The MoC was later provided and reviewed and CAR 2 closed. The MoC statement /03/ uses the latest available form, with all the necessary information provided, as well as the details of both the PPs.	CAR-2	OK
	Has the MoC been signed by the authorised signatories of the PP? Are the signatories consistent with the names given in Annex 1 of the MoC?	At the time of the site visit and draft report the MoC had not been provided – Please see CAR 2. The MoC was later provided and reviewed . ERM CVS confirms that the MoC /03/ has been signed by the authorised signatories of both the PPs, as confirmed by reviewing documents with the corporate and personal details: <ul style="list-style-type: none"> Personal identity of director of Climate Corporation Emissions Trading GmbH (referred to as Climate Corporation below) and signatory of MoC was confirmed based on Passport details /15.2/. As Director and Shareholder /15.1/, the signatory is an authorized signatory. Corporate Identity of Climate Corporation was confirmed based on certified translation of company information /15.1/. This document also shows the shareholders and managing director. The company details and authorised signatory are consistent with the information in the contract between ERM CVS and Climate Corporation Emissions Trading GmbH Personal identities of directors of Carbon Africa Limited (referred to as Carbon Africa below) and signatories of MoC were confirmed based on Passport details /15.3/ and /15.4/. One of the authorised signatories was present at the site visit. Carbon Africa's Board Resolution on Authorized Signatories was reviewed to confirm that signatories are authorised to sign on behalf of the company. /15.5/ The signatories and names are consistent in Annex 1 of the MoC /03/.	CAR-2	OK

Conclusion

ERM CVS has reviewed the modalities of communication, and confirms that the latest form was used, and all the required entries filled. Corporate and personnel information was reviewed (such as identities and authorization) /15/, and compared with the signatories in Annex 1 of the MoC /03/, confirming that the signatories are authorised, currently employed, and that the approval is genuine.

6 Validation findings – GSP, PDD and Project Description

6.1 Main changes between the PoA-DD version published for GSP and the final version submitted for registration:

- Changes related to the CARs and CLs, as identified in Appendix B
- Version numbers of the applied Guidelines on demonstrating additionality of microscale project activities as well as the Guidelines on the demonstration of additionality of small-scale project activities have changed from 03 to 04 and from 08 to 09, respectively

6.2 Global stakeholder consultation

At the start of the validation, in accordance with the latest version of the Project Cycle Procedure, the unvalidated PoA-DD and one real case CPA-DD supplied by the client were uploaded on the UNFCCC website for global stakeholder review for a period of 30 days. The global stakeholder process (GSP) period was of 30 days from 12 June 2012 - 11 July 2012 on the UNFCCC website for the Global stakeholder process.

[<http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/ZUW7036S60AS8DYHHNRXNXXSRB9WKV/view.html>]

The comments received were evaluated by the validation team and taken into account in the course of the validation activities, and are described below.

	Comment received (all comments were received from one person)	How comments were evaluated and taken into account
1	Inclusion criteria for CPA inclusion is not fully descriptive and adequate, must be enlarged and refined. The PoA to be webhosted for international stake holder consultations again after modifying the relevant sections. DOE should not undertake the validation of this kind of PoA's	Validation of eligibility criteria is part of validation process. Their validation is described in section 7 of this report. While the wording of some of the criteria has changed to make the clearer and verifiable, the essence has not been changed and ERM CVS does not consider it necessary to re-post the PoA-DD for GSP. The comment appears to target the type of PoA rather than this specific PoA.
2	Number of CPA's to be included is not clear and more elaborate explanation necessary. Please correct the same and webhost the project again for comments. DOE to ensure that the project is republished or international stake holder consultation process	There is no requirement in the CDM Project Standard for the CME to identify at PoA validation stage how many CPAs would be included in the PoA. Nonetheless, as part of the site visit the validation team interviewed Terra Power Solutions, current project development partner of the CME, and checked summary documentation on the portfolio. There is a portfolio of small scale – primarily solar PV and concentrating solar PV – power schemes under development, which all together prompted the project developer to seek PoA registration to compensate for regulatory uncertainty and lack of financial viability. Their compliance with eligibility criteria is yet to be assessed at the time when their CPA-DDs are prepared and submitted for inclusion. It is not relevant to include details of other CPAs in the PoA-DD.
3	DOE must confirm the correct and conservative identification of the Baseline. Baseline must be verifiable. Identification of baseline is not clear in all situations	The comment is not clear, considering that the applied methodology specifies baseline scenario, and grid emissions factor is calculated ex-ante. The validation includes assessing if the PoA complies with the methodology's applicability conditions, including whether eligibility criteria are sufficient to ensure those conditions are met by each CPA.

4	Multiple site visits must be made by DOE to cross check and establish proper baselines	The comment is not clear, as baseline is electricity generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations. The CM is calculated using published data, and ERM CVS interviewed NERSA to confirm which information sources and the latest publicly available sources. It is therefore not clear what is meant by multiple visits.
5	DOE to check for appropriate positioning of the PoA with regard to technological aspects	The comment is not clear. Validation of technological aspects is described in the validation report.

As comments are generic in nature and not clear ERM CVS has contacted the person who submitted comments asking for further information and to identify how the person is related to the PoA /27/. However, no response was received. Therefore ERM CVS considers that the comments relate to the PoA approach generally and the type of PoAs rather than this specific PoA.

6.3 Programme of Activities Design Document (PoA-DD)

As per VVS section 7.10, ERM CVS reviewed the PoA-DD to determine whether it has been prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC website.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/CAR/ CL	Final OK/ NOT OK
6.3.1	Is the PoA-DD prepared in accordance with the latest forms and guidance by the CDM EB? http://cdm.unfccc.int/Reference/PDDs_Forms/PoA/index.html	ERM CVS can confirm that the PoA-DD /1/ has been checked against the latest Programme of Activities Design Document form (F-CDM-PoA-DD – version 2.0) and latest guidelines for completing the Programme of Activities Design Document form available on the CDM website. The PoA-DD is in compliance with the template and guidelines.	OK	OK

Conclusion

ERM CVS has confirmed that the PoA-DD has been prepared in accordance with the latest form and with relevant guidance.

6.4 PoA Description

As per VVS section 7.11, ERM CVS reviewed the description of the PoA in the PoA-DD in order to confirm the framework developed for the implementation of the PoA, and for defining a CPA under the PoA, and to evaluate whether it provides a clear and accurate description of the proposed CDM PoA and generic CPA. Validation of the PoA description was based on review of documentation, a physical inspection of the site of the first real case CPA, and interviews.

Description of the PoA

Policy/measure or stated goal of the PoA:

The purpose of the Small Scale Renewable Energy Carbon Programme (SRECP) (hereafter referred as the PoA) is to support the development and implementation of small-scale renewable energy projects in South Africa, and potentially in other countries in the future, in order to displace grid-connected, fossil fuel based electricity generation, thereby reducing greenhouse gas (GHG) emissions. Renewable energy technologies implemented under the programme may include hydro (either run-of-river reservoir or an accumulated reservoir), wind and solar photovoltaic. The programme focuses on greenfield renewable energy projects, and will not include any combination of both renewable and non-renewable components (e.g. a wind/diesel unit).

This PoA is meant to support the development of renewable energy projects connected to the South African national electricity grid system by facilitating the access to carbon credits in order to overcome some of the key barriers that those projects have been facing. CPAs included under this PoA will follow South Africa's Independent Power Producers (IPP) bidding process or any future applicable renewable energy policy framework as the applicable legal and regulatory framework for the development of renewable energy projects by IPPs.

Description of the PoA:

The geographical area of the PoA is defined by the national boundaries of the Host Country, South Africa. The boundary may be amended post-registration to include additional host countries.

CPAs under the PoA will use renewable energy technologies to generate electricity. The following CPA types will be included in the PoA:

- Hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir);
- Wind power plant/unit;
- Solar photovoltaic (PV) power plant/unit .

A generic CPA to be included in the proposed PoA will involve the implementation and operation of a hydro, wind or solar PV power plant implemented at a site where no renewable power plant was operated prior to the implementation of the project activity. The CPAs of the proposed PoA will generate electricity, which will be fed into South Africa's national electricity grid. By replacing grid-connected fossil fuel based electricity generation, the PoA will lead to emission reductions.

The findings of our validation of the project description in the PoA-DD are set out below.

PoA Boundary, Location and Status

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
6.4.1	Boundary: Is the definition of the boundary for the PoA correctly stated in terms of a geographical area (e.g., municipality, region within a country, country or several countries) within which all CPAs included in the PoA will be implemented, taking into consideration all applicable national and/or sectoral policies and regulations? How was this validated?	<p>The PoA will cover the whole host country (South Africa). The boundary may be amended post-registration to include additional host countries. This was validated based on interviews with the CME and Terra Power Solutions, developer of a portfolio of solar and wind power schemes to be included as CPAs into the proposed PoA. The boundary is in line with the South African regulations on renewable energy /04/08/09/: the relevant regulations are specific for South Africa and do not have regional differences within the country.</p> <p>However, the PoA description in the GSP PoA-DD /1/ was not clear on how applicable national and/or sectoral policies and regulations within the chosen boundary have been considered in defining the PoA boundary and its goal/stated aim. CL 1 was raised.</p> <p>The revised PoA-DD /1/ description now explains that the PoA is designed to help overcome hurdles and risks that have prevented renewable energy generation projects being implemented. It is explained that policies to promote renewable energy generation were adopted and then have been changing resulting in considerable uncertainties and associated risks. The circumstances are the same throughout the country, where this information was confirmed based on ERM CVS's local and sectoral knowledge and review of energy regulations /04 - 10/. CL 1 was closed.</p>	CL-1	OK
6.4.2	Policy/measure or stated goal of the PoA: Does the PoA-DD describe the policy/measure or stated goal that the PoA seeks to promote? How was this validated?	<p>Yes, section A.2 of the PoA-DD describes the stated goal of the PoA.</p> <p>Please refer to CL 1: the PoA description in the GSP PoA-DD was not clear on how applicable national and/or sectoral policies and regulations within the chosen boundary have been considered in defining the PoA boundary and its goal/stated aim.</p> <p>CL 1 was closed. Please refer to Question 6.4.1.</p> <p>The stated goal was validated based on interviews with the CME, National</p>	CL-1	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		<p>Energy Regulator, and Terra Power Solutions, developer of a portfolio of solar and wind power schemes to be included as CPAs into the proposed PoA, as well as review of the South African regulations on electricity generation from renewable energy sources /04-10/. ERM CVS can confirm that policies have changed at least once per year, increasing risks of investing into development and implementation of renewable energy projects:</p> <ul style="list-style-type: none"> In 2009, the National Electricity Regulator for South Africa (NERSA) has proposed Renewable Energy Feed-In Tariff scheme (REFIT), which suggested tariffs for wind, solar and small hydro power projects /05/ Later in the same year, a consultation paper suggested revising the tariffs, and new tariffs were adopted /08/ In 2010, new regulation was adopted, which suggested Independent Power Producers (IPP) programme for renewable energy schemes and using competitive bidding for implementing it /10/. Instead of fixed feed-in tariffs, the IPPs are invited to bid for a tariff, which should not exceed the set ceiling. In 2011, a tender was published for the implementations of the Renewable Energy IPP programme /10/ ERM CVS has confirmed during interview with NERSA that feed-in tariff scheme was abandoned. <p>Further, based on interviews with the CME, the developer of first CPA, and NERSA representatives, the IPP procurement programme suffers from delays and changes to requirements. Frequent changes to the regulations present a barrier to renewable energy developers, and the PoA is designed to help alleviate the barrier by providing a source of revenue.</p> <p>The PoA boundary is also consistent with the first real case programme activity to be included as a CPA under this PoA.</p>		
6.4.3	<p>Confirmation of voluntary action: Does the POA-DD provide confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity? How was this validated?</p>	<p>Yes, section A.2 of the PoA-DD includes confirmation that the proposed PoA is a voluntary action. ERM CVS has confirmed this by review of relevant host country energy regulations, as well as interviews with the National Energy Regulator of South Africa (NERSA), to confirm that renewable energy projects – hydro, solar and wind – are not mandated by any laws or regulations in the host country /04-10/. The Integrated Resource Plan for Electricity 2010-2030 /04/ suggests that a share of new electricity generation capacity should come from renewable energy projects, and subsequent regulations provide a framework on how independent power producers can participate by submitting bids /10/.</p>	OK	OK

Conclusion

The process undertaken to validate the accuracy and completeness of the PoA description is set out in detail above. ERM CVS has confirmed that the description in the PoA-DD /1/ provides a clear, accurate and complete understanding of the nature of the proposed CDM PoA.

Technical description of a PoA and generic CPA

A generic CPA of this PoA consists of implementing a small-scale greenfield renewable energy projects which employs either hydro, wind or solar technology, which would supply electricity to the South African national grid. The description of technologies and measures implemented by the PoA has been validated as follows:

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
6.4.4	<p>(i) Description: Generic CPA design</p> <p>Does the description of technologies/measures of in the PoA-DD section A.6 provide a clear, accurate and sufficiently detailed description of all relevant elements of the PoA and a generic CPA?</p>	<p>The GSP PoA-DD /1/ contained a description of technologies/measures implemented by the PoA and its CPAs. However, the description was very generic and only referred to hydro, wind, solar PV and solar thermal technologies in a broad sense. This is not sufficient to provide a clear understanding of a generic CPA and what information will be specified at CPA level:</p> <ul style="list-style-type: none"> • Typical layout has not been included with main equipment and installations, including key monitoring equipment • Description is not clear on what details will have to be provided for each CPA in order to provide clear description of actual CPAs • Information on technology transfer is not included • The grid to which electricity will be supplied is not specified • It is not clear what type of solar thermal technologies will be covered. The description refers that energy can be used directly in process heat applications or converted to electricity. Will PoA include solar thermal plants that produce heat? <p>CL 2 was raised to address this.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that:</p> <ul style="list-style-type: none"> • Section A.6 has been amended to include typical layout, and information regarding the typical equipment/ installations and key monitoring equipment for Wind power, Solar PV and Hydro power (run-of-river and accumulated reservoir). • Section A.6 now includes tables for each technology for each CPA to provide sufficient details to provide a clear description of actual CPAs, including installed capacity, equipment type and lifetime, and plant load factors. This would ensure key information is provided for each CPA to provide a clear, accurate and sufficiently detailed description of relevant elements of CPAs. • A brief description of technology transfer has been included. As technology provider and arrangements may differ between the CPAs it is suitable that more detailed information is specified at CPA level. • The grid has been consistently defined as the South African national electricity grid. • Solar thermal technologies have been excluded from the PoA <p>CL 2 is closed.</p> <p>After the above clarifications and corrections, the revised POA-DD provides a clear, accurate and sufficiently detailed description of all relevant elements of the PoA and a generic CPA.</p>	CL-2	OK
6.4.5	<p>Description: Existing installations</p> <p>a) If the generic CPA involves the alteration of an existing facility, installation or process, does the description clearly state the differences resulting from the PoA</p>	<p>Not applicable. The PoA does not include CPAs that involve an alteration of existing facility. Capacity additions, retrofits and replacement of existing plants are not covered by this PoA.</p>	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	<p>compared to the pre-project situation?</p> <p>b) How has the description of the existing facility, installation or process been validated?</p> <p>c) Is the description of the existing facility, installation or process consistent with information provided in other parts of the CPA-DD such as common practice and baseline selection?</p>			

Conclusion

The description of the generic CPA-DD contains a clear description of a typical CPA that provides the reader with a clear understanding of the precise nature of the CPAs to be included in the proposed PoA. The description sufficiently covers all relevant elements, is accurate, and clearly states the differences resulting from the project activity compared to the pre-project situation.

7 Validation Findings - Eligibility Criteria for Inclusion of a CPA in a PoA

7.1 Description of Eligibility Criteria

Following guidance from Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities /26/, ERM CVS evaluated the eligibility criteria contained in section B.2 of the PoA-DD to evaluate whether they are verifiable, sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
7.1.1	Do the eligibility criteria include the geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA (for example, an emission factor for electricity generation is dependent on the boundaries of regional or state or sub-regional grids)? Are the relevant criteria verifiable and sufficiently objective?	Yes, the eligibility criteria include a criterion that CPA location must be consistent with the PoA boundary as stated in section A.5 of the PoA-DD /1/. The criterion is sufficiently objective and verifiable.	OK	OK
7.1.2	Do the criteria include conditions that avoid double counting of emission reductions, like unique identifications of product and end-user locations (e.g. programme logo)? Are the relevant criteria verifiable and sufficiently objective?	<p>Yes, the criteria include checks to confirm that no double counting occurs. Procedure to avoid double counting is described in section C. The CPAs are identified uniquely by their name and GPS coordinates. The name refers to location and installed capacity. Altogether the name and coordinates sufficiently ensure a unique identification.</p> <p>However, the section in the GSP PoA-DD refers to a contract between CME and CPA implementer as the main and single evidence. It is not clear from the description how CME will ensure CPAs meet this eligibility criterion. CL 3 was raised.</p> <p>The revised PoA-DD /1/ states that the CME will provide cross-check records conducted by CME against information available on the UNFCCC website regarding the non-existence of similar CDM project activities/component project activity, as described in the management system, section C. The CME will also confirm that there is no geographical overlap between the CPA and another single CDM project or CPA of the same type as described in the management system, section C. Operational and Management system is further validated in section 10 of this report.</p> <p>CL 3 was therefore closed.</p> <p>After the above clarification and revisions, the criterion is verifiable and sufficiently objective.</p>	CL-3	OK
7.1.3	Do the criteria include the specifications of technology/measure including the level and type of service, and performance specifications, including compliance with testing/certifications? Are the relevant criteria verifiable and	<p>It was not clear if performance specifications and compliance with testing/certifications were considered in defining the eligibility criteria in the GSP PoA-DD. CL 4 was raised.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and can confirm that eligibility criteria include performance specifications and compliance with testing/ certifications. The certification standards specified in the PoA-DD were validated against the Part B of the Request for qualification and proposals for new generation capacity under the IPP procurement programme /10/.</p>	CL-4 CL-5 CL-2	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	sufficiently objective?	<p>CL 4 was closed.</p> <p>Feasibility study or “other project documentation” were suggested as the main sources of evidence in the GSP PoA-DD. CL 5 was raised to clarify what criteria the CME will apply for assessing credibility of project documentation/feasibility studies provided as evidence on compliance with eligibility criteria.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirmed that criteria have been included for assessing the credibility of project documentation/feasibility studies to be used as evidence for showing compliance with the PoA eligibility criteria. The requirements are considered sufficient to assess at the CPA level whether evidence is objective and reliable. CL 5 is closed.</p> <p>It was also not clear in the GSP PoA-DD if type of service is the same for all technologies. Specifically, can CPAs that involve solar thermal power plants also produce heat? Please refer to CL 2</p> <p>CL 2 was closed after Solar thermal technology has been excluded from the revised PoA-DD.</p> <p>Following these clarifications and revisions, the criterion on technology is clear, verifiable and sufficiently objective.</p>		
7.1.4	Do the criteria include conditions to check the start date of the CPA through documentary evidence? Are the relevant criteria verifiable and sufficiently objective?	<p>The eligibility criteria include a condition that the start of the CPA occurs after the start date of the validation of the PoA (date of the start of GSP). The criterion is verifiable and sufficiently objective. Agreement with equipment, construction or operation provider is suggested as main evidence of compliance for the eligibility criterion on the starting date. However, an agreement with the equipment or – moreover – construction or operation services provider, was suggested as evidence in the GSP PoA-DD but such document might not yet be available at the time of CPA inclusion. CL 6 was therefore raised on how the CME will ensure compliance with the eligibility criterion can be checked at CPA inclusion stage.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the PoA start date has been changed to the date at which the PoA validation started (12/06/2012). As PoA is a framework (without CPAs included yet) and does not involve investments into equipment, validation of the PoA is considered as implementation and therefore the identified date complies with the CDM Glossary of Terms and the CDM Project Standard version 02.1.</p> <p>The eligibility criterion on CPA start date has been amended. The criterion states that the CPA starting date must be after the starting date of the PoA and it suggests that for any CPA, the starting date is a date when an agreement with an equipment manufacturer or construction/operation services is signed – the earliest of these (if separately done) will be taken as the CPA start date. CL 6 was closed.</p> <p>Following this clarification and revision, the criterion on the starting date in the revised PoA-DD is verifiable and sufficiently objective.</p>	CL-6	OK
7.1.5	Do the eligibility criteria include conditions that ensure compliance with applicability and other requirements of single or multiple methodology/ies applied by CPAs? Are the relevant criteria verifiable and sufficiently objective?	<p>The eligibility criteria include conditions to check if the methodology applicability conditions as set out in the section B.2 of the generic part of the PoA-DD are met. The criterion is clear and sufficiently objective. Methodology applicability conditions are validated in section 8.2 of this report.</p>	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
7.1.6	Do the eligibility criteria include conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality (please refer to the latest approved version of the <i>Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for Programme of Activities</i>); Are the relevant criteria verifiable and sufficiently objective?	<p>Additionality-related criteria are set out separately in the PoA-DD. The following options for demonstrating additionality were listed as permitted in the GSP PoA-DD :</p> <p>Option A: Microscale additionality Option B.1: Investment Barrier Option B.2: Access-to-capital Barrier Option B.3: Barrier due to prevailing practice Option C: First-of-its-Kind additionality Option D: Automatic additionality</p> <p>The guidelines on demonstrating additionality of microscale project activities as well as the Guidelines on the demonstration of additionality of small-scale project activities have been revised at the latest EB meeting and PoA-DD needed revision to be in line with the new versions of these guidelines. This has been correctly done in the revised PoA-DD /1/.</p> <p>Criteria for using Microscale additionality option in the revised PoA-DD include relevant requirements of the Guidelines for demonstrating additionality of microscale project activities.</p> <p>1) CL 7 was raised: Please update the options to demonstrate CPA additionality with the latest version of the Guidelines on the demonstration of additionality of small-scale project activities.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the barriers are now in line with the Guidelines. First-of-its-kind is no longer a separate additionality criterion, but correctly included as the 'Barrier due to prevailing practice' criterion. CL 7 is closed.</p> <p>2) Option B.1 (Investment barrier) in the GSP-PoA-DD: If the CPAs using this barrier are to use Tool for the demonstration and assessment of additionality, it is not clear which steps of the Tool will have to be applied and how. E.g. it is not clear what benchmark would be acceptable, which indicator should be used and why, etc. CL 8 was raised.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the provisions in the "Guidelines on the demonstration of additionality of small-scale project activities", the "Non-binding best practice examples to demonstrate additionality for SSC project activities", and "Guidelines on the assessment of investment analysis" are prescribed when demonstrating additionality using Investment barrier. The "Tool for the demonstration and assessment of additionality" is not mandatory for the small scale project activities, and the methodology also does not prescribe its use, therefore it is acceptable if the CPAs do not follow it closely when demonstrating investment barrier.</p> <p>ERM CVS confirmed that Guidelines on the assessment of investment analysis have been correctly followed in prescribing acceptable financial benchmarks in the revised PoA-DD, including default value of expected return on equity (10.9%). CL 8 is closed.</p> <p>3) Option B.2 in the GSP PoA-DD (Access-to-capital barrier): Please refer to CL 7. In addition, the criterion was not sufficiently described in the GSP PoA-DD. If the CPA is implemented by a state-owned company or one of the top companies in South Africa, they can have access to capital. CAR 4 was raised to justify /correct this option for demonstrating CPA additionality.</p> <p>In the revised PoA-DD /1/, option B.2 of the additionality-related criteria has been amended to require evidence of financial ownership to demonstrate that there is no significant shareholding by Multinational companies, state-owned companies and companies listed on the Johannesburg Stock Exchange , as well as provide financial statements for the most recent year. In addition, loan agreement or Emission reduction Purchase Agreement will need to be provided to demonstrate that a financier is also buying CERs or significant part of project investment is a pre-payment for expected CERs. The revised criterion includes relevant</p>	<p>CL 7</p> <p>CL 8</p> <p>CAR 4</p> <p>CAR 5</p>	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		<p>requirements from the Guidelines for the objective demonstration and assessment of barriers (version 01). CAR 4 is closed.</p> <p>4) Option B.3 in the GSP PoA-DD (Barrier due to prevailing practice): Common practice analysis to which the guidelines apply, is a step to support investment or barrier analysis rather than a step on its own to demonstrate additionality. Barrier due to prevailing practice as defined in Guidelines on the demonstration of additionality of small-scale project activities is different from common practice test in the additionality tool, and their roles are different. CAR 5 was raised to correct this barrier.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and checked it against the Guidelines on the demonstration of additionality for small-scale project activities, Non-binding best practice examples to demonstrate additionality for small scale project activities, and Guidelines on additionality of first-of-its-kind project activities. The barrier now refers to the first-of-its kind barrier and is in line with the relevant Guidelines, including a condition that CPA has a fixed crediting period of 10 years. The criterion correctly no longer refers to the guidelines on common practice. The demonstration of how this criterion is applied for generic CPAs in part II of the PoA-DD correctly refers that this option of first-of-its-kind is not available for wind and hydro power CPAs. I.e., it is only available for generic CPA type "solar PV power plants".</p> <p>A footnote has been included in the PoA-DD /1/ stating that the definitions applied for the terms such as applicable geographical area, measure and different technology will be based on the Guidelines on additionality of first-of-its-kind project activities version 02.0. Therefore the criterion includes relevant requirements from the guidelines. CAR 5 is closed.</p> <p>5) Option C in the GSP PoA-DD: Please refer to CL 7. As clarified by EB 68 Annex 28, first of its kind criteria can be used to demonstrate a prevailing practice barrier when applying "Guidelines for demonstration of additionality of small-scale project activities".</p> <p>CL 7 has been closed. Please refer to the explanation above. What was option C in the GSP PoA-DD became option B.3 in the revised PoA-DD (Barrier due to prevailing practice). Please refer to paragraphs above.</p> <p>6) Automatic additionality (Option D in the GSP PoA-DD and Option C in the revised PoA-DD)</p> <p>The criterion on this option refers to the positive list of grid-connected renewable electricity generation technologies as specified in Guidelines on the demonstration of additionality of small-scale project activities (version 09.0). In this PoA, this option is available for solar PV CPA type only, and this is correctly referred to in the PoA-DD part II. The criterion is clear and verifiable.</p> <p>After the closure of CL 7, CL 8, CAR 4 and CAR 5 the criteria on additionality and sufficiently objective and verifiable.</p>		
7.1.7	Do the eligibility criteria include, if applicable, any PoA-specific requirements stipulated by the CMEs including any conditions related to undertaking local stakeholder consultations and environmental impact analysis (See also paragraph 6 (m) of Procedures for registration of a programme of activities as a single CDM project activity and issuance of CERs for a PoA). Are the relevant criteria verifiable and	<p>Eligibility criteria include conducting local stakeholder consultation and conducting an EIA for each CPA are in line with the South African laws and regulations /24/.</p> <p>The criteria are sufficiently objective and verifiable.</p>	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	sufficiently objective?			
7.1.8	Do the criteria include, where applicable, the target group (e.g. domestic/ commercial/ industrial, rural/ urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation)? (This is to re-test the validity of assumptions made at the PoA level. For example, in a lighting efficiency application, lighting usage hours of 3.5 hours per day would be valid if the target group is residences/households. Usage hours would be different in commercial applications and vice versa), Are the relevant criteria verifiable and sufficiently objective?	The criteria include condition that the SSC-CPA supplies electricity to the South Africa national; or supplies electricity to an identified consumer facility via the national grid through a contractual arrangement such as wheeling. Contractual agreement with a buyer of electricity will be used as evidence. Based on interview with NERSA representatives and review of Eskom annual report /07/, ERM CVS can confirm that in South Africa effectively there is one interconnected national grid, and there are no regional grids that function separately. The criterion is sufficiently objective and verifiable.	OK	OK
7.1.9	Do the criteria include, where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guidelines/ standard from the Board pertaining to sampling and surveys? Are the relevant criteria verifiable and sufficiently objective?	Not applicable as there will be no sampling within a CPA.	OK	OK
7.1.10	Do the criteria include, where applicable, conditions that ensure that the CPA in aggregate meets the small-scale or micro-scale threshold criteria (please refer to the latest approved version of the Guidelines for demonstrating additionality of microscale project activities and the latest approved version of the General Guidelines to SSC CDM methodologies) and remain within those thresholds throughout the crediting period of the CPA? Are the relevant criteria verifiable and sufficiently objective?	<p>The criteria include a condition that the installed capacity of the CPA is smaller than or equal to 15 MW, and if a CPA is applying additionality option A (Microscale additionality), the installed capacity of the CPA is smaller than or equal to 5 MW. Feasibility, engineering design or other relevant study reports can be used as evidence. Please refer to CL 5: please clarify what criteria the CME will apply for assessing credibility of project documentation/feasibility studies provided as evidence on compliance with eligibility criteria. CL 5 was closed. Please refer to Question 7.1.3 for further details.</p> <p>The installed capacity of grid-connected renewable energy projects does not fluctuate, therefore no criterion is needed to ensure the capacity remains within the threshold.</p> <p>After this clarification, ERM CVS can confirm that the criterion is sufficiently objective and verifiable.</p>	CL-5	OK
7.1.11	Do the criteria include, where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories (please refer to the latest approved version of the Guidelines on assessment of debundling for SSC project activities)? Are	The criteria include a condition to check if the proposed CPA is not a debundled component of a large scale project activity, using debundling check carried out in line with the latest approved version of the Guidelines on assessment of debundling for SSC project activities (version 03). The criterion is sufficiently objective and verifiable.	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	the relevant criteria verifiable and sufficiently objective?			
7.1.12	Do the criteria include conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance? Are the relevant criteria verifiable and sufficiently objective?	<p>Yes, the criterion is included that no Official Development Assistance (ODA) will be diverted as a result of the CPA. If public funding is used, the CPA operator has to provide evidence that the funding does not result in ODA diversion. Evidence required is in the form of a confirmation letter from the CPA that public funding is not used, or – if public funding is used – a letter from Annex I country confirming that it does not result in diversion of ODA.</p> <p>-The criterion is sufficiently objective and verifiable.</p>	OK	OK
7.1.13	Does the CME have the competencies to check the features of potential CPAs and ensure that each CPA meets all requirements and eligibility criteria before inclusion in the registered PoA?	ERM CVS reviewed profile of Carbon Africa and its personnel and conducted interviews with the director and project manager and is able to confirm that the CME has sufficient competencies to check the features of potential CPAs and ensure that each CPA meets eligibility criteria before inclusion in the registered PoA. For further details of the validation of the operation and management system of the CME, please refer to section 9 of the validation report.	OK	OK
7.1.14	Is the set of eligibility criteria sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA?	<p>To be confirmed following closure of CLs 3-6 and CARs 4-5.</p> <p>As described above, the revised PoA-DD correctly addresses all the issues raised in CLs 3-6 and CARs 4-5.</p> <p>ERM CVS therefore confirms that the set of eligibility criteria is sufficiently objective, and comprehensive to permit the assessment of the inclusion of CPAs in this PoA, and meets the requirements of the Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities /26/.</p>	<p>CLs 3-6</p> <p>CARs 4-5</p>	OK

Conclusion:

The list of eligibility criteria for inclusion of CPAs in the PoA comply with the Standard for the Development of Eligibility Criteria for the inclusion of a Project Activity as a CPA under the PoA”, are verifiable and sufficiently objective to permit the assessment of the inclusion of CPAs in the PoA.

8 Validation findings – Baseline and Monitoring Methodology

ERM CVS has evaluated the baseline and monitoring methodology selected by the PPs to confirm its applicability and whether or not it has been appropriately applied in the PoA-DD.

8.1 Validity of selected methodology and methodological tools

As per VVS section 7.12.1, ERM CVS validated that an approved and currently valid baseline and monitoring methodology (and associated methodological tools) have been applied for this proposed CDM PoA.

Baseline methodology applied	AMS I.D "Grid connected renewable electricity generation" (version 17)
Methodological tools applied as required by the methodology	<p>"Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion" (version 02) – not used in this PoA</p> <p>"Tool to calculate the emission factor for an electricity system" (version 02.2.1)</p>

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
8.1.1	Is the number, title and version of the approved methodology clearly and correctly stated in the PoA-DD?	ERM CVS has determined that the methodology (AMS I.D. version 17) is correctly quoted and applied in the PoA-DD by comparing with the actual text of the applicable version of the methodology available on the UNFCCC CDM website. The methodology is within its period of validity.	OK	OK
	Is the methodology within their period of validity?			
	Are all the required tools applied and fully referenced in the PoA-DD ?	ERM CVS has determined that the methodological tools are correctly quoted in section B.1 of the generic CPA part of the PoA-DD /1/ and applied by comparing with the actual text of the applicable version of the tools available on the UNFCCC CDM website. The tools are within their period of validity.	OK	OK
	Are the version numbers applicable at the time of validation?			
	If applicable, has any specific guidance provided by the CDM EB relating to the applied methodology been considered?	N/a - No additional specific guidance was used in the PoA-DD nor is relevant for this PoA .	OK	OK

Conclusion

The applied methodology and associated methodological tools have been correctly described and are approved by the CDM Executive Board. All versions are currently valid.

8.2 Applicability of the selected methodology to the generic CPA

As per VVS section 7.12, ERM CVS evaluated whether the selected baseline and monitoring methodology applied in the proposed PoA (generic CPA part) is applicable to the generic CPA described in the PoA-DD. This evaluation was based on a review of the PoA-DD and associated documentation and a visit to the first real case CPA proposed to be included in the PoA. ERM CVS has validated whether the applicability conditions of the methodology and relevant tools are met and whether the PoA is not expected to result in emissions other than those allowed by the methodology.

ERM CVS has assured the compliance of the generic CPA with each of the applicability conditions of the selected methodology and tools, set out in section B.2 of part II of the PoA-DD (Application of methodology(ies)):

	Applicability Conditions in methodology and/or tools	Discussed in PoA-DD (yes/no)	Applicable (Yes/No, or state that this condition is not relevant for the project)	Validation findings (including justification and substantiation of information, data and evidence).	Draft OK/ CAR/CL	Final OK/ Not OK
8.2.1	<p>This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass:</p> <p>(a) Supplying electricity to a national or a regional grid; or</p> <p>(b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.</p>	Yes	Yes	<p>The applicability condition is sufficiently explained in the PoA-DD /1/: it clearly states that the PoA covers CPAs that install hydro, wind or solar technologies, all of which are eligible under this methodology.</p> <p>However, further clarification /justification was needed as to how AMS-I.D can be applied to solar thermal power plants, considering the methodology does not mention solar thermal technology and methodological options for project emissions do not include project emissions for solar thermal power plants. CL 9 was raised. Also please refer to CL 2 comment (e) – it was not clear what type of solar thermal technologies would be covered. ERM CVS reviewed the revised PoA-DD and confirms that the solar thermal technology has been removed from this PoA, and any reference to it in the PoA-DD or generic CPA-DD is also removed. CL 9 and CL 2 comment (e) are therefore closed.</p> <p>The PoA eligibility criteria include a condition that CPAs will supply electricity to a national or a regional grid, or to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling (criterion 9, target group). This is line with the description in section A.6 of the PoA-DD. However, the grid was not specified in the GSP PoA-DD – please refer to CL 2. The grid was specified in the revised PoA-DD and as explained in question 6.4.4 the CL 2 was closed.</p>	CL-9 CL-2	OK
	<p>This methodology is applicable to project activities that: (a) Install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) Involve a capacity addition; (c) Involve a retrofit of (an) existing plant(s); or (d) Involve a replacement of (an) existing plant(s).</p>	Yes	Yes	<p>The PoA only includes CPAs which will install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (greenfield plant). This is in line with the PoA description in section A of the PoA-DD /1/. Compliance of CPAs with this methodology applicability condition will be ensured by eligibility criterion 3 (technology)..</p>	OK	OK
	<p>Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <ul style="list-style-type: none"> • The project activity is implemented in an existing reservoir with no change in the volume of reservoir; • The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project 	Yes	Yes	<p>This applicability criterion is correctly described in the PoA, where in the case that the CPA is a hydro power scheme with reservoirs, it will be required to satisfy at least one of the conditions in the criterion to be eligible for the methodology. Compliance of CPAs with this methodology applicability condition will be ensured by eligibility criterion 3 (technology).</p>	OK	OK

	Applicability Conditions in methodology and/or tools	Discussed in PoA-DD (yes/no)	Applicable (Yes/No, or state that this condition is not relevant for the project)	Validation findings (including justification and substantiation of information, data and evidence).	Draft OK/ CAR/CL	Final OK/ Not OK
	activity, as per definitions given in the Project Emissions section, is greater than 4 W/m ² ; • The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m ² .					
	If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	Yes	Yes	It was not clear from the description of the PoA in section A of the GSP PoA-DD /1/ in what case a CPA could involve both renewable and non-renewable components. CL 10 was raised. ERM CVS reviewed the revised PoA-DD /1/ and confirms that Sections A.2, A.6, B.2, B.3 B.6 of the PoA (Part I), and sections A.1, B.2, B.5, B.6 (Part II) have been amended to clarify that CPAs will not include any combination of both renewable and non-renewable components. This is also specifically stated in the eligibility criterion 3 (technology), which would ensure CPAs included in the PoA meet this methodology applicability condition. CL 10 is closed.	CL 10	OK
	Combined heat and power (co-generation) systems are not eligible under this category.	Yes	N/a	Not applicable. The PoA does not include combined heat and power (cogeneration) systems. This is correctly described in the PoA-DD /1/ and is in line with the PoA description and eligibility criteria.	OK	OK
	In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	Yes	N/a	Not applicable. The PoA does not include capacity additions. This is correctly described in the PoA-DD and is in line with the PoA description and eligibility criteria.	OK	OK
	In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	Yes	N/a	Not applicable. The programme of activities does not include retrofits or replacements. This is correctly described in the PoA-DD and is in line with the PoA description and eligibility criteria.	OK	OK
	In the specific case of biomass project activities the applicability of the methodology is limited to either project activities that use biomass residues only or biomass from dedicated plantations complying with the applicability conditions of AM0042	Yes	N/a	This condition is not relevant for this PoA as the PoA does not involve biomass activities. This is in line with the PoA description and POA eligibility criteria.	OK	OK
	In the specific case of biomass project activities the determination of leakage shall be done following the general guidance for	Yes	N/a	This condition is not relevant for this PoA as the PoA does not involve biomass activities.	OK	OK

	Applicability Conditions in methodology and/or tools	Discussed in PoA-DD (yes/no)	Applicable (Yes/No, or state that this condition is not relevant for the project)	Validation findings (including justification and substantiation of information, data and evidence).	Draft OK/ CAR/CL	Final OK/ Not OK
	leakage in small-scale biomass project activities (attachment C of Appendix B16 of simplified modalities and procedures for small-scale clean development mechanism project activities; decision 4/CMP.1) or following the procedures included in the leakage section of AM0042					
	<p>In case the project activity involves the replacement of equipment, and the leakage from the use of the replaced equipment in another activity is neglected because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented.</p> <p>The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified</p>	Yes	N/a	<p>This condition is not discussed in the PoA-DD – CAR 6 was raised.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the methodology applicability criteria has been correctly amended in Section B.2 of part II.. The section now correctly explains that that this condition is not applicable, as the PoA does not involve activities that involve biomass. This in line with the PoA description and eligibility criteria.</p> <p>CAR 6 is closed.</p>	CAR-6	OK
	<p>Tool to calculate the emission factor for an electricity system</p> <ul style="list-style-type: none"> This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity, i.e. where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects). The tool is not applicable if the project electricity system is located partially or totally in an Annex I country. 	Yes	Yes	<p>Please refer to validation of the first applicability criterion of the methodology.</p> <p>The second condition is not relevant, as South African grid is not connected to any of the Annex I countries' grids.</p> <p>This is correctly described in the PoA-DD and is in line with the eligibility criteria.</p>	OK	OK

Conclusion

The applied methodology and associated tools are fully applicable to the generic CPA and is correctly applied in the PoA-DD. No greenhouse gas emissions sources were identified within the proposed generic CPA boundary as a result of the

implementation of the proposed CPA which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

8.3 CPA Boundary

As per VVS section 7.12.5, ERM CVS reviewed the description of the project boundary in the PoA-DD, including the sources and gases included in the boundary of the proposed generic CPA for the purpose of calculating project and baseline emissions for the generic CPA.

Emission sources

The emissions sources included in or excluded from the generic CPA boundary, as set out in the applied methodology are as follows:

	Source	Gas	Included in a generic CPA?	Is inclusion / exclusion justified in the PoA-DD?	How has this been validated?
Baseline emissions	CO ₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to project activity	CO ₂	Yes – for all CPA types	Yes	This was validated based on the site visit, validation of eligibility criteria, and review of the methodology: CO ₂ emissions from power plants connected to the South African electricity grid will be the main baseline emissions source
		CH ₄	No – for all CPA types	Yes	This is in accordance with the applied methodology
		N ₂ O	No – for all CPA types	Yes	This is in accordance with the applied methodology
Project emissions	For any technology type, on-site consumption of fossil fuels if applicable	CO ₂	No – for all CPA types	Yes	.This is in accordance with the applied methodology, as CPAs will not involve on-site consumption of fossil fuel.
		CH ₄	No – for all CPA types	Yes	This is in accordance with the applied methodology, as CPAs will not involve on-site consumption of fossil fuel
		N ₂ O	No – for all CPA types	Yes	This is in accordance with the applied methodology, as CPAs will not involve on-site consumption of fossil fuel
	For hydro power plants, emissions of CH ₄ from the reservoir	CO ₂	No – for all CPA types	Yes	This is in accordance with the applied methodology,
		CH ₄	Yes – for CPAs involving hydro power with accumulation reservoir	Yes	This is in accordance with the applied methodology
		N ₂ O	No – for all CPA types	Yes	This is in accordance with the applied methodology

Other emission sources of project emissions set out in the applied methodology are not applicable to this PoA, as the POA does not include solar thermal or geothermal power plants. The justification for these sources is correctly explained in the PoA-DD.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
8.3.1	Has the PoA-DD justified the inclusion/exclusion of all potential sources of GHG	ERM CVS evaluated whether the sources of GHG emission set out in the applied methodology were included in the CPA boundary and, where the methodology allows PPs to choose whether a source or gas is to be included within the	CL-9	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	emissions as set out in the applied baseline methodology	<p>boundary, this has been clearly justified in the PoA-DD. The validation was based on review of PoA-DD and the applied methodology.</p> <p>The GSP PoA-DD refers to project emissions from solar thermal power plants. Please refer to CL 9: further clarification /justification is needed as to how AMS-I.D can be applied to solar thermal power plants, considering the methodology does not mentioned solar thermal technology and methodological options for project emissions do not include project emissions for solar thermal power plants.</p> <p>In the revised PoA-DD references to solar thermal technology/plants have been taken out and CL 9 was closed.</p> <p>The methodology refers to on-site consumption of fossil fuels due to the project activity but this possible source is not discussed in the GSP PoA-DD. CL 11 was raised to clarify if CPAs might have on-site consumption of fossil fuels due to the project activity.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and can confirm that the PoA-DD is clear that CPAs will not involve any on-site fossil fuel consumption.</p> <p>CL 11 is closed.</p> <p>Sections on emission sources and GHGs, methodological choices, and ex-ante calculations were not separated per technology type in the GSP PoA-DD. CAR 7 was raised.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that sections on emission sources and GHGs, methodological choices, and ex-ante calculations have been correctly separated per technology type and are in accordance with the applied methodology.</p> <p>CAR 7 is closed. After the above corrections were done by the CME, the PoA-DD sufficiently justifies the inclusion/exclusion of all potential sources of GHG emissions as set out in the applied baseline methodology.</p>	<p>CAR-7</p> <p>CL 11</p>	

Conclusion

The identified boundary and the selected sources and gases included in the final PoA-DD and generic CPA-DD are appropriately described and justified for the project activity, in accordance with the applied methodology. The information is correctly described in the section B.3 of the PoA-DD.

Emission sources not addressed by the methodology

ERM CVS evaluated whether there are any emission sources that will be affected by the generic CPA and are not addressed by the applied methodology.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
8.3.2	Were any emission sources identified that will be affected by the generic CPA and are not addressed by the selected approved methodology? If so, was clarification of, revision to or deviation from the methodology approved in accordance with required	Based on site visit and document review, no emission sources were identified that would be affected by the generic CPA and are not addressed by the selected approved methodology.	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	procedures.			

Conclusion

The PoA-DD correctly describes the project boundary, including the physical delineation of the typical CPA, in compliance with the requirements of the selected baseline methodology, and this is consistent with observations in the first real case CPA and other documentation provided. All sources and GHGs required by the methodology have been included within the PoA boundary. The project boundary is justified for the PoA and typical CPAs, based on ERM CVS's local and sectoral knowledge.

8.4 Baseline identification

As per VVS section 7.12.6, ERM CVS reviewed the PoA-DD to assess whether it correctly identifies the baseline for proposed CPAs, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CPAs.

As per VVS, no alternative analysis is required if the approved methodology that is selected by the proposed CDM PoA prescribes the baseline scenario.

The baseline identification has been validated as follows:

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
8.4.1	Does the PoA-DD identify the baseline for a PoA and generic CPA, a scenario that represents the anthropogenic emissions by sources of GHG that would occur in the absence of the PoA?	The methodology applied by this PoA - AMS I.D "Grid connected renewable electricity generation" (version 17) - dictates the baseline scenario for new renewable projects as follows: "Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system". The PoA-DD correctly lists this baseline scenario. Please also refer to CL 2 – solar thermal technologies/activities are not clear. If they involve biomass, the identified baseline is not applicable. CL 2 was closed after Solar thermal power plants have been excluded from the revised PoA-DD /1/.	CL-2	OK
	Have the procedures/ steps to identify the most reasonable baseline scenario, as required by the methodology(ies) and applicable tools, been documented clearly in the PoA-DD for a generic CPA?	Since the baseline is specified by the methodology, no further procedures / steps to identify the most reasonable baseline scenario are required.	OK	OK

Conclusion

Based on the documentary evidence to cross check the information contained in the PoA-DD and generic CPA-DD as referenced above, ERM CVS confirms that:

The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM PoA. The identified baseline is in line with all relevant national and/or sectoral policies and circumstances.

8.5 Algorithms and/or formulae used to determine emission reductions

As per VVS section 7.12.7, ERM CVS has evaluated whether the steps taken and equations applied to calculate project emissions, baseline emissions, leakage, and emission reductions comply with the requirements of the selected baseline and monitoring methodology.

ERM CVS conducted validation activities to determine whether the equations and parameters in the PoA-DD have been correctly applied by comparing them to those in the selected approved methodology. Where the methodology provides for selection between different options for equations or parameters, ERM CVS confirmed that adequate justification has been provided (based on the choice of the baseline scenario, context of the proposed generic CPA and other evidence provided) and that the correct equations and parameters have been used, in accordance with the methodology selected.

Ex Ante Data and Parameters

Each parameter required by the methodology and tools for this project type is listed and validated in detail as follows:

Parameter required as per methodology / tools	Description of the parameter (as per methodology)	Is the parameter included in the PoA-DD?	Title and description in the PoA-DD line with the Methodology?	Data unit correctly expressed in PoA-DD?	Value in PoA-DD correct and provides for conservative estimate of Emission Reductions? How was this validated?	Measurement method correctly described in the PoA-DD (if applicable)
<i>Parameters applicable for all types of generic CPAs:</i>						
NCV _{i,y}	Net calorific value (energy content) of fossil fuel type <i>i</i> in year <i>y</i>	Yes	Yes	Yes	Yes. Validated by checking the IPCC default values /17/	N/A
EF _{CO2,i,y} and EF _{CO2,m,i,y}	CO2 emission factor of fossil fuel type <i>i</i> used in power unit <i>m</i> in year <i>y</i>	Yes	Yes	Yes	Yes. Validated by checking the IPCC default values /17/	N/A
η _{m,y} and η _{k,y}	Average net energy conversion efficiency of power unit <i>m</i> or <i>k</i> in year <i>y</i>	Yes	Yes - η _{m,y}	Yes	Yes. Validated by checking Annex 1 of the Tool to calculate the emission factor for an electricity system and plant/fuel type of the plants in 2006 Electricity supply statistics for South Africa /06/. Default value for open cycle gas turbines built after 2000 is used	N/A
EG _{m,y} , EG _y , EG _{k,y} and EG _{n,h}	Net electricity generated by power plant/unit <i>m</i> , <i>k</i> or <i>n</i> (or in the project electricity system in case of EG _y) in year <i>y</i> or hour <i>h</i>	Yes	Yes - EG _{m,y}	Yes	Yes – validated based on review of Eskom annual report /07/ and monitoring reports of CDM projects /18-21/.	N/A
FC _{i,m,y} , FC _{i,y} , FC _{i,k,y} , FC _{i,n,y} and FC _{i,n,h}	Amount of fossil fuel type <i>i</i> consumed by power plant/unit <i>m</i> , <i>k</i> or <i>n</i> (or in the project electricity system in case of FC _{i,y}) in year <i>y</i> or hour <i>h</i>	Yes	Yes - FC _{i,m,y}	Yes	Yes – validated based on review of Eskom annual report /07/.	N/A
<i>Parameters required only for CPA type "Hydro power with accumulation reservoir"</i>						
CAP _m	Total capacity of off-grid power plants included in off-grid power plant	No	N/A	N/A	N/A	N/A

Parameter required as per methodology / tools	Description of the parameter (as per methodology)	Is the parameter included in the PoA-DD?	Title and description in the PoA-DD line with the Methodology?	Data unit correctly expressed in PoA-DD?	Value in PoA-DD correct and provides for conservative estimate of Emission Reductions? How was this validated?	Measurement method correctly described in the PoA-DD (if applicable)
	class <i>m</i>					
Cap _{BL}	Installed capacity of the hydro power plant before the implementation of the project activity. For new hydro power plants, this value is zero	Yes	Yes	Yes	Value is to be reported at CPA level	Yes, in line with the methodology
A _{BL}	Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m2). For new reservoirs, this value is zero	Yes	Yes	Yes	Value is to be reported at CPA level	Yes, in line with the methodology

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
8.5.1	<p>Have the parameters required by the methodology / tools been correctly described in the PoA-DD?</p> <p>Where the methodology provides for selection between different options for data and parameters; is the choice of data and parameters justified?</p>	<p>ERM CVS has checked section B.6.2 of the generic part of the PoA-DD against the methodology and the Tool for calculating grid emissions factor of an electricity system and can confirm that all parameters required by the methodology and the Tool have been correctly included in the PoA-DD.</p> <p>The tool allows choosing data sources for $NCV_{i,y}$, $EF_{CO2,i,y} / EF_{CO2,m,i,y}$, and $\eta_{m,y} / \eta_{k,y}$. The choice is explained and justified in the PoA-DD.</p> <p>CL 12 was raised: Please clarify and describe transparently how for CDM projects values of $EG_{m,y}$ were derived for 3 years considering that monitoring reports are not available for all 3 years.</p> <p>ERM CVS reviewed the revised PoA-DD /1/, and the PP's response. The DOE can confirm that as some of the relevant CDM projects do not have completed 3 years of monitored data, it is acceptable to estimate the data based on information in available monitoring reports as this is more conservative than assuming no electricity generation. This explanation has been included in the PoA-DD /1/.</p> <p>CL 12 is closed.</p>	CL-12	OK

Equations and calculations used to calculate emission reductions

The following steps are applied in the PoA-DD to determine emission reductions of proposed CPAs, in accordance with the methodology and tools applied:

Baseline emissions

The baseline emissions are the product of electrical energy baseline $EG_{BL,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.

The baseline emissions (BE_y) are calculated using **equation (1)** of AMS I.D version 17:

$$BE_y = EG_{BL,y} * EF_{CO2,grid,y}$$

Where:

- BE_y = Baseline Emissions in year y (tCO₂)
- $EG_{BL,y}$ = Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)
- $EF_{CO2grid,y}$ = CO₂ emission factor of the grid in year y (tCO₂/MWh)

Calculation of $EF_{CO2,grid,y}$

The emission factor will be calculated in a transparent and conservative manner using option (a), the combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the *Tool to calculate the emission factor for an electricity system*.

The grid emission factor will be calculated for the South African electricity system and will be updated after every seven years of the PoA. Equations and fixed parameter values to calculate the grid emission factor for South Africa are provided below.

Step 1. Identify the relevant electric power system

For calculating the grid emission factor, the project activity has identified the South African national grid as the relevant project electricity system.

The identification of the South African national grid as the relevant project electricity system is based on the following arguments:

- The South African DNA has not published a delineation of the project electricity system and connected electricity system.
- There is no proof of the existence of significant transmission constraints by means of the application criteria, therefore the application criteria does not result in a clear grid boundary.
- Finally, South Africa does not have a layered dispatch system and the country has only one grid system that serves the entire country. Therefore, and in line with version 02.2.1 of the *Tool to calculate the emission factor for an electricity system*, the national grid definition is used by default.

Step 2. Choose whether to include off-grid power plants in the project electricity system (optional)

The project activity has selected Option I, only grid power plants were included in the calculation.

Step 3. Select a method to determine the operating margin (OM)

The *Tool to calculate the emission factor for an electricity system* provides for the following methods to determine the operating margin (OM):

- Simple OM
- Simple adjusted OM
- Dispatch data analysis OM
- Average OM

In South Africa, low-cost/must-run resources constitute more than 50% of total grid generation. Apart from hydro, wind, and nuclear power plants, most coal-fired power plants have to be considered as low-cost/must-run as:

- Coal used in South African power plants is a cheap resource compared to other technologies e.g. natural gas/kerosene because South Africa is the 6th largest producer of coal in the world with one of the lowest coal prices in the world.
- Coal power plants in South Africa have an average capacity factor higher than 75%. In line with international common practice, power plants with a capacity factor higher than 75% are considered as base-load power plants, which are usually dispatched independently of the daily or seasonal load. Furthermore, Eskom Holdings Annual Report 2011 defines most of the coal power plants as base load plants.

Because low-cost/must-run resources constitute more than 50% of the total grid generation, the simple OM method cannot be used. Therefore, the project activity has selected the average OM method for calculating the operating margin.

In terms of data vintage, the project will use the *ex ante* option, and the emission factor is determined once at the validation stage based on a 3-year generation weighted average based on the most recent data available at the time of submission of the CDM-PoA-DD to the DOE for validation.

Step 4: Calculate the operating margin emission factor according to the selected method

The average OM emission factor ($EF_{grid,OM-ave,y}$), is calculated as the average emission rate of all power plants serving the grid, using the methodological guidance as described under (a) for the simple OM, but also including the low-cost/must-run power plants in all equations.

The average OM emission factor is calculated using equation 1

$$EF_{grid,OM-ave,y} = \frac{\sum_m EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}}$$

Where:

$EF_{grid,OM-ave,y}$	=	Average operating margin CO ₂ emission factor in year y (tCO ₂ /MWh)
$EG_{m,y}$	=	Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
$EF_{EL,m,y}$	=	CO ₂ emission factor of power unit m in year y (tCO ₂ /MWh)
m	=	All grid power units serving the grid in year y
y	=	The relevant year as per the data vintage chosen in Step 3

Determination of $EG_{m,y}$

For grid power plants, $EG_{m,y}$ is based on published records from Eskom and CDM monitoring reports for the CDM power plants. The grid emission factor calculations are based on the publicly available data in South Africa, i.e. Eskom power plants and CDM projects. This represents 95% of the total electricity generated. Electricity generated from Independent Power Producers and Municipality owned power plants is not available and is not included in calculations in GSP PoA-DD. However it was not clear in GSP PoA-DD what type of power plants are operated by IPPs and Municipalities and if excluding them from calculations is conservative. **CL 13** was raised to clarify it and justify the approach used. The revised PoA-DD justifies and sufficiently explains that IPP and Municipality power plants are not included in the calculation because of the unavailability of data, and that the results are still conservative – Please see Question 8.5.2 for further details. CL 13 was subsequently closed.

Determination of $EF_{EL,m,y}$

Because data on fuel consumption and electricity generation of the grid-connected units is available, Option A1 is used to determine the emission factors of the grid power units. However, for Acacia, Port Rex, Ankerlig, Gourikwa only data on electricity generation and fuel type is available for the year 2009-2010, thus Option A2 is used instead for those.

Option A1:

$$EF_{EL,m,y} = \frac{\sum_i FC_{i,m,y} \times NCV_{i,y} \times EF_{CO2,i,y}}{EG_{m,y}}$$

Where:

$EF_{EL,m,y}$	=	CO ₂ emission factor of power unit m in year y (tCO ₂ /MWh)
$FC_{i,m,y}$	=	Amount of fossil fuel type i consumed by power unit m in year y (Mass or volume unit)
$NCV_{i,y}$	=	Net calorific value (energy content) of fossil fuel type i in year y (GJ/mass or volume unit)
$EF_{CO2,i,y}$	=	CO ₂ emission factor of fossil fuel type i in year y (tCO ₂ /GJ)
$EG_{m,y}$	=	Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
m	=	All grid power units serving the grid in year y
i	=	All fossil fuel types combusted in power unit m in year y
y	=	The relevant year as per the data vintage chosen in Step 3

Option A2:

$$EF_{EL,m,y} = \frac{EF_{CO_2,m,i,y} \times 3.6}{\eta_{m,y}}$$

Where:

$EF_{EL,m,y}$	=	CO ₂ emission factor of power unit m in year y (tCO ₂ /MWh)
$EF_{CO_2,m,i,y}$	=	Average CO ₂ emission factor of fossil fuel type i in power unit m in year y (tCO ₂ /GJ)
$\eta_{m,y}$	=	Average net energy conversion efficiency in power unit m in year y (ratio)
M	=	All grid power units serving the grid in year y
i	=	All fossil fuel types combusted in power unit m in year y
y	=	The relevant year as per the data vintage chosen in Step 3

The **OM** was correctly calculated as **0.9585** tCO₂/MWh

Step 5: Calculate the build margin (BM) emission factor

For the calculation of the build margin (BM) emission factor, Option 1 data vintage has been chosen. Hence, for the first crediting period, the build margin emission factor will be calculated *ex ante* based on the most recent information available on units already built for sample group m at the time of CDM-PoA-DD submission to the DOE for validation. For the second crediting period, the build margin emission factor will be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the DOE. For the third crediting period, the build margin emission factor calculated for the second crediting period will be used.

The build margin emission factor is thus calculated using **equation 12** of the *Tool to calculate the emission factor for an electricity system*, as shown below:

$$EF_{grid,BM,y} = \frac{\sum_m EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}}$$

Where:

$EF_{grid,BM,y}$	=	Build margin CO ₂ emission factor in year y (tCO ₂ /MWh)
$EG_{m,y}$	=	Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
$EF_{EL,m,y}$	=	CO ₂ emission factor of power unit m in year y (tCO ₂ /MWh)
m	=	Power units included in the build margin
y	=	Most recent historical year for which power generation data is available

In order to identify the power units m included in the build margin and in accordance with the *Tool to calculate the grid emission factor for an electricity system*, SET_{5-units} and SET_{≥20%} were identified. Both SET_{5-units} and SET_{≥20%} comprise the same power plants, thus both are SET_{sample}.

As some of the power plants in the SET_{sample}, Majuba and Kendal, started to supply electricity to the grid more than 10 years ago, step (d) was considered and SET_{sample-CDM} was calculated.

AEG_{SET-sample-CDM} was around 0.03%, much lower than 20% required by the *Tool to calculate the emission factor for an electricity system*. Therefore, step (e) was considered and power units that started to supply electricity to the grid more than 10 years ago were added until the electricity generation of the new set comprised 20% of the annual electricity generation. The final set of power plants included in the calculation of the Build Margin (SET_{sample-CDM>10years}) was as follows: Gourikwa, Ankerlig, Klipheuwel, Bethlehem hydro, Durban landfill gas Bissar Road project, PetroSA biogas to energy, Durban landfill gas to energy project – Marianhill and La Mercy landfills, Majuba, and Kendal.

As the sample of power generation units for calculating the BM corresponds to the $SET_{\text{sample-CDM}>10\text{years}}$ the CO₂ emission factor of each power unit m ($EF_{EL,m,y}$) is determined as per the guidance in step 4 (a) for the simple OM, using **equation (3)** under option A2 and using for y the most recent historical year for which grid power generation data is available, in this case 2010-2011, and using for m the power units included in the build margin.

The **BM** for this PoA was correctly calculated as **0.9063** tCO₂/MWh. This value will be used until the PoA is updated in line with the Project Standard.

Step 6: Calculate the Combined Margin

Option A i.e. the weighted average combined margin is used.

The combined margin emissions factor is calculated as follows:

$$EF_{\text{grid,CM},y} = EF_{\text{grid,OM},y} \times w_{\text{OM}} + EF_{\text{grid,BM},y} \times w_{\text{BM}}$$

Where:

$EF_{\text{grid,BM},y}$	=	Build margin CO ₂ emission factor in year y (tCO ₂ /MWh)
$EF_{\text{grid,CM},y}$	=	Operating margin CO ₂ emission factor in year y (tCO ₂ /MWh)
w_{OM}	=	Weighting of operating margin emissions factor (%)
w_{BM}	=	Weighting of build margin emissions factor (%)

The following default values are used for w_{OM} and w_{BM} :

- Wind and solar power generation project activities: $w_{\text{OM}} = 0.75$ and $w_{\text{BM}} = 0.25$ (owing to their intermittent and non-dispatchable nature) for the first crediting period and subsequent crediting periods;
- All hydro projects: $w_{\text{OM}} = 0.5$ and $w_{\text{BM}} = 0.5$ for the first crediting period and $w_{\text{OM}} = 0.25$ and $w_{\text{BM}} = 0.75$ for the second and third crediting period, unless otherwise specified in the approved methodology which refers to this tool.

$$EF_{\text{grid,CM},y} = EF_{\text{CO}_2,\text{grid},y}$$

The **CM** was correctly calculated as follows:

- For CPA types wind and solar PV: **0.9454** tCO₂/MWh
- For CPA types run-of-river hydro and hydro with accumulation reservoir: **0.9324** tCO₂/MWh

Project emissions

For most renewable energy project activities $PE_y = 0$. However, as per the provisions in AMS I.D (version 17), for the generic CPA type involving hydro power plants with reservoirs, project emissions from water reservoirs have to be considered following the procedure described in the most recent version of ACM0002.

CO₂ emissions from on-site consumption of fossil fuels due to the project activity shall be calculated using the latest version of the "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion. Please refer to CL 10 – further clarification was required in the GSP PoA-DD if CPAs might have on-site consumption of fossil fuels due to the project activity. The revised PoA-DD completely excludes CPAs that involve the on-site consumption of fossil fuel, therefore no emissions from fossil fuel consumption will occur.

Emissions from water reservoirs of hydro power plants ($PE_{\text{HP},y}$)

These methodological choices are applicable only to the CPA type Hydro power plant with accumulation reservoir.

For hydro power project activities that result in new single or multiple reservoirs and hydro power project activities that result in the increase of single or multiple existing reservoirs, project proponents shall account for CH₄ and CO₂ emissions from the reservoirs, estimated as follows:

(a) If the power density of the single or multiple reservoirs (PD) is greater than 4 W/m² and less than or equal to 10 W/m², **equation 3** in ACM0002 (version 13.0.0) will be used to calculate $PE_{\text{HP},y}$:

$$PE_{\text{HP},y} = (EF_{\text{Res}} * TEG_y) / 1000$$

Where:

$PE_{HP,y}$ = Project emissions from reservoirs of hydro power plants in year y (tCO₂e/yr)

EF_{Res} = Default emission factor for emissions from reservoirs of hydro power plants in year y (kgCO₂e/MWh)

TEG_y = Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y (MWh)

According to the methodology, the default value for EF_{Res} is used, 90 kgCO₂e/MWh.

b) If the power density of the project activity (PD) is greater than 10 W/m² **equation 4** will be used:

$$PE_{HP,y} = 0$$

The power density of the project activity (PD) will be calculated using (**equation 5**) in ACM0002 version 13.0.0, as follows:

$$PD = (Cap_{PJ} - Cap_{BL}) / (A_{PJ} - A_{BL})$$

Where:

PD = Power density of the project activity (W/m²)

Cap_{PJ} = Installed capacity of the hydro power plant after the implementation of the project activity (W).

Cap_{BL} = Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero

A_{PJ} = Area of the single or multiple reservoirs measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m²)

A_{BL} = Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m²). For new reservoirs, this value is zero

Leakage emissions

CPAs included in the PoA will not use energy generating equipment that is transferred from another activity. Therefore, leakage emissions are not considered. However, eligibility criteria of the GSP PoA-DD did not include this condition therefore it was not clear how it would be ensured that no CPA uses equipment from another activity – please refer to CL 14. Please refer to question 8.5.2 below on how the CL 14 was closed.

Emission reductions

In line with the used methodology AMS-I.D. (version 17) the emission reduction are calculated using **equation 10** in AMS-I.D (version 17), as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y = Emission reductions in year y (tCO₂/y)

BE_y = Baseline Emissions in year y (tCO₂/y)

PE_y = Project emissions in year y (tCO₂/y)

LE_y = Leakage emission in year y (tCO₂/y)

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
8.5.2	<p>Has the PP correctly applied all relevant calculations as required by the methodology and associated tools?</p> <p>Is it fully explained how the procedures provided in the Methodology and applicable Tools are applied by the proposed PoA? (i.e. Are the required steps clearly followed?)</p>	<p>ERM CVS has checked methodological choices in the PoA-DD against the text of the applied methodology and the Tool to calculate grid emissions factor of an electricity system.</p> <p>Please refer to CL 9: on what basis are solar thermal projects included, considering the methodology does not mentioned solar thermal technology and methodological options for project emissions do not include project emissions for solar thermal power plants</p> <p>CL 9 was closed after solar thermal technology was excluded from the PoA.</p> <p>Electricity generated from Independent Power Producers and Municipality owned power plants is not available and is not included in calculations of $EG_{m,y}$ for the purpose of calculating OM. However it was not clear what type of power plants are operated by IPPs and Municipalities and if excluding them from calculations is conservative. CL 13 was raised to clarify it and justify the approach used</p> <p>ERM CVS reviewed the revised PoA-DD /1/, the Electricity Supply Statistics for South Africa in 2006 /6/, and the PP response, and confirms that it is not possible to include power plants operated by IPPs and Municipalities, as the data is not available. It was confirmed during interviews with the NERSA representatives that the above-referred publication from 2006 is the latest publicly available information source on electricity generation from municipal and IPP-owned power plants.</p> <p>Based on review of data on net electricity generation from municipal and IPP-owned power plants in 2006 /06/, ERM CVS can confirm that coal-based net generation constituted 97% of the total from these sources. After taking out own consumption, the share is even higher, 98.9%. As this is the latest information available, it is reasonable to use it for justification. As the generation from these plants is primarily coal-based, the PP's claim that it is conservative to exclude these power plants from calculations of grid emissions factor is justified.</p> <p>CL 13 is closed.</p> <p>In the GSP PoA-DD incorrect option was used to calculate $EF_{EL,m,y}$ for power units included in a sample group for calculating BM: the sample of power units corresponds to the sample group $SET_{sample-DEM \rightarrow 10yrs}$ but option A1 from Step 4(a) is used for calculating $FE_{EL,m,y}$. This is not in accordance with the Tool, which requires option A2 to be used in such case. CAR 8 was raised.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and the revised Grid Emissions Factor spread sheet /25/ against the Tool to calculate the emissions factor for an electricity system, and can confirm that Option A2 is now correctly used in Step 4(a).</p> <p>CAR 8 is closed.</p> <p>Please refer to CL 11: Please clarify if CPAs might have on-site consumption of fossil fuels due to the project activity.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and can confirm that the PoA-DD and generic CPA-DD are now clear that CPAs will not involve any on-site fossil fuel consumption. CL 11 is closed.</p> <p>The PoA-DD states that the PoA will not use energy generating equipment that is transferred from another activity and therefore leakage emissions are not considered. However, eligibility criteria of the GSP PoA-DD did not include this condition therefore it was not clear how it would be ensured that no CPA will use equipment from another activity. CL 14 was raised.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the eligibility criteria, under Technology (c), has been correctly amended to include a condition that the PoA will not use energy generating equipment that is transferred from another activity. CL 14 was closed.</p> <p>After these corrections ERM CVS can confirm that the PP correctly applied all relevant calculations as required by the methodology and the Tool to calculate</p>	<p>CL-9</p> <p>CAR-8</p> <p>CL-11</p> <p>CL-13</p> <p>CL-14</p>	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		grid emissions factor of an electricity system, and the PoA-DD fully explained how the procedures provided in the Methodology and the Tool are applied by the proposed PoA.		
	Where the methodology or tool(s) provides for selection between different options for equations; is every choice of options for calculating project emissions, baseline emissions and leakage offered by the methodology correctly justified in the context of the PoA and baseline scenario?	<p>The "Tool to calculate the emission factor for an electricity system" provides for selection between different options for equations.</p> <ul style="list-style-type: none"> Options to calculate OM. Because low-cost/must-run resources constitute more than 50% of the total grid generation, the simple OM method cannot be used. Therefore, the project activity has selected the average OM method for calculating the operating margin. This is correct and was validated by reviewing Eskom publications Option A1 is used for calculating emission factors of grid power units, and the choice is sufficiently justified Option 1 in terms of data vintage is chosen for calculating BM, and the choice is clearly explained 	OK	OK
	Are the formulae required for the determination of project emissions, baseline emissions and leakage correctly presented in a complete and transparent manner, enabling a complete identification of parameters to be used and / or monitored?	ERM CVS has checked the formulae in the PoA-DD against the text of the applied methodology and the Tool to calculate grid emissions factor of an electricity system, and can confirm that the formulae are presented in a complete and transparent manner and all parameters used in emission reduction calculations can be clearly identified.	OK	OK
	If applicable, are detailed calculations provided in a traceable spreadsheet showing relevant information?	<p>Calculations are provided in a traceable spreadsheet, which was checked by ERM CVS: calculations are conducted correctly apart from the issue raised as CAR 8.</p> <p>CAR 8 has been closed - Please refer to explanation above. The calculations are correct and are provided in a traceable spreadsheet /25/ showing relevant information.</p>	CAR-8	OK

Conclusion

The PoA-DD correctly applies the methodology and appropriate tools to provide a framework for calculating the emission reductions of a generic CPA. All assumptions and data used are properly listed, including references and sources where applicable. Calculation of actual baseline, project and leakage emissions will be made only at CPA level.

9 Validation findings – Additionality

As per the VVS sections 7.12.8 to 7.12.13 and the ‘Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities’ /26/, ERM CVS assessed the PoA-DD to determine whether it clearly describes how the proposed CDM PoA is additional, as supported by sufficient and appropriate evidence. In accordance with the standard, additionality must be demonstrated for the POA as a whole, and it must be demonstrated that each of the individual CPAs are additional. As per the CDM Project Standard, the CME must demonstrate that the proposed CDM PoA is additional in accordance with the “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities”. A full additionality assessment is not required in the context of CPA. Instead, the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria.

As per the ‘Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities’ /26/, additionality of a PoA must be demonstrated by establishing that in the absence of CDM, none of the implemented CPAs would occur. PoAs that will include one or more microscale projects as CPA shall include eligibility criteria derived from all the relevant requirements of the ‘Guidelines for demonstrating additionality of microscale project activities’. PoAs that will include one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A of Appendix B of the Simplified modalities and procedures for small-scale CDM project activities. PoAs that will include one or more large-scale projects as CPA shall include eligibility criteria derived from all the relevant requirements contained in the additionality section of the large-scale methodology(ies).

ERM CVS has validated the additionality of the PoA as a whole and that the PoA-DD includes adequate eligibility criteria to ensure the additionality of individual CPAs, as per the CDM Project standard. ERM CVS has ensured that all additionality guidelines set out in the approved methodology and tools have been included within the CPA eligibility criteria. ERM CVS assessed and verified the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by the PPs to support the demonstration of additionality in order to critically assess the presented evidence, using local knowledge and sectoral and financial expertise.

In undertaking this aspect of the validation, ERM CVS considered tools and documents provided by the CDM Executive Board to demonstrate the additionality of proposed CDM PoA, as well as specific complementary or alternative requirements included in the approved CDM methodology.

In the sections below, ERM CVS describes all steps taken, and sources of information used, to cross-check the information contained in the PoA-DD on additionality. Where appropriate, we describe how the validation team determined that the documentation assessed is authentic.

9.1 Prior consideration of the CDM

As per EB 60 annex 26, The Board agreed that the “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. Based on the site visit ERM CVS can confirm that to its knowledge there is no component of the programme that commenced prior to the start of validation.

9.2 Additionality of the PoA as a whole

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
9.2.1	Has the CME demonstrated that in the absence of the CDM either: (i) the proposed voluntary measure would not be implemented, or (ii) the mandatory policy/regulation would be systematically not enforced and that non-compliance with those requirements is widespread in the country/region, or	ERM CVS reviewed the PoA-DD /1/ and can confirm that the PoA is a voluntary coordinated action and case (i) is used for demonstrating additionality of the PoA as a whole, i.e. demonstrating that the proposed voluntary action would not be implemented in the absence of CDM. As per Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities /26/, additionality shall be demonstrated by establishing that in the absence of CDM, none of the implemented CPAs would occur. In this PoA, additionality is demonstrated at CPA level. Additionality of the PoA stems from demonstrating for each of the CPAs to be included in the PoA, that it is additional. If each CPA demonstrates that in the absence of CDM it would not be implemented, the coordinated voluntary action proposed by the PoA will consequently not be implemented.	CL-7 CL-8 CAR-4 CAR-5	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	(iii) that the PoA will lead to a greater level of enforcement of the existing mandatory policy /regulation.	Please refer to CLs 7-8 and CARs 4-5. CL 7, CL 8, CAR 4 and CAR 5 are closed - please see Question 7.1.6 for details and section 9.4.		

9.3 Identification of alternatives

The project applies methodology AMS I.D. (Version 17), which defines the baseline, for Greenfield projects, as:

- “The electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.”

The approved methodology that is selected by the proposed CPA prescribes the baseline scenario and no further analysis is required. The identification of alternatives is validated in detail in section 7.4 above.

9.4 Assessment of additionality of a CPA

As per the “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” /26/, a full additionality assessment is not required in the context of CPA. Instead, the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria. Additionality of CPAs is to be demonstrated using additionality-related eligibility criteria. ERM CVS has validated whether the description of assessment of CPA additionality correctly follow the methodology and relevant tool(s) and guidance, and whether compliance with the additionality-related eligibility criteria set in the PoA design document will ensure that all the relevant additionality-related guidelines, tools or any requirements embedded in the methodologies are met.

Validation how the framework was used in the first real case CPA is described in a separate CPA validation report.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
9.4.1	Does the description of assessment of CPA additionality correctly follow the methodology and relevant tool(s) and guidance?	Please refer to CL 7 : Please update the options to demonstrate CPA additionality with the latest version of the Guidelines on the demonstration of additionality of small-scale project activities. CL 7 was closed. Please see Question 7.1.6 for details. Option B.1 (Investment barrier): it is not clear how the steps of the Tool for the demonstration and assessment of additionality will be applied to demonstrate CPA additionality. E.g. it is not clear what benchmark would be acceptable, which indicator should be used and why, and whether CPA has developed a template for financial analysis. Please refer to CL 8 . CL 8 was closed. Please see Question 7.1.6 for details. Option B.2: Please refer to CL 7 . In addition, the criterion is not sufficient. If the CPA is implemented by a state-owned company or one of the top companies in South Africa, they can have access to capital. Please refer to CAR 4 . CAR 4 was closed. Please see Question 7.1.6 for details. Option B.3: Guidelines on common practice were no longer valid on their own at the time of starting validation of this PoA, as their requirements were incorporated into the Tool for the demonstration and assessment of additionality version 06 valid from 25 Nov 2011. Common practice analysis in this Tool is a step to	CL-7 CL-8 CAR-4 CAR-5	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		<p>support investment or barrier analysis rather than a step on its own to demonstrate additionality. Barrier due to prevailing practice as defined in Guidelines on the demonstration of additionality of small-scale project activities is different from common practice test in the additionality tool, and their purposes are different. Please refer to CAR 5.</p> <p>CAR 5 was closed. Please see Question 7.1.6 for details.</p> <p>Option C: Please refer to CL 7. As clarified by EB 68 Annex 28, first of its kind criteria can be used to demonstrate a prevailing practice barrier when applying "Guidelines for demonstration of additionality of small-scale project activities".</p> <p>The description of assessment of CPA additionality and relevant eligibility criteria in the revised PoA-DD /1/ correctly follow the methodology and relevant requirements of the Guidelines on the demonstration of additionality of small-scale project activities, Guidelines for demonstrating additionality of microscale project activities, Guidelines for the objective demonstration and assessment of barriers, and Guidelines for the assessment of investment analysis.</p>		
9.4.2	Will compliance with the additionality-related eligibility criteria set in the PoA-DD ensure that all the relevant additionality-related guidelines, tools or any requirements embedded in the methodologies are met	<p>CL 7, CL 8, CAR 4 and CAR 5 were raised.</p> <p>CL 7, CL 8, CAR 4 and CAR 5 are closed. Please see Question 7.1.6 for details.</p> <p>Following closure of these CARs and CLs, ERM CVS can confirm that compliance with the additionality-related eligibility criteria set in the PoA-DD will ensure that all the requirements of relevant additionality-related guidelines are met.</p>	<p>CL 7</p> <p>CL 8</p> <p>CAR 4</p> <p>CAR 5</p>	OK

Conclusion

The description of how CPA additionality will be assessed correctly follows the methodology and relevant guidelines. Compliance of CPAs with the additionality-related eligibility criteria set in the PoA design document will ensure that all the relevant additionality-related guidelines, tools or any requirements embedded in the methodologies are met. How eligibility criteria are met by specific CPAs will be validated at CPA level and a conclusion on the results of the CPA additionality will be conformed at CPA level.

10 Validation Findings – Operational, management and monitoring plan for the programme of activities

ERM CVS has validated the competencies of the CME in accordance with paragraph 19 of the 'Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities' /26/. According to the requirements, the CMEs shall have the competencies to check the features of potential CPAs and ensure that each CPA meets all requirements and eligibility criteria before inclusion in the registered PoA. ERM CVS has validated the management system as developed and implemented by the CME as follows.

10.1 Operation and Management Plan

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
10.1.1	Has the CME demonstrated that there is an operational and management system for the implementation and management of the PoA?	<p>Description of operational and management system was not sufficient in the GSP PoA-DD: it did not cover all provisions set out in the Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies /26/. CAR 9 was raised.</p> <p>ERM CVS reviewed the revised PoA-DD /1/, and the "PoA Management and CPA Inclusion Manual" /23/, and confirms that Section C: Management System has been amended to include:</p> <ul style="list-style-type: none"> Records of arrangements for training and capacity development for personnel Procedures for technical review of inclusion of CPAs Measures for continuous improvements of the PoA management system <p>These sections provide sufficient information to meet the provisions of Paragraph 19 of the Standard.</p> <p>The CME management manual /23/ provides a synopsis of all the operational and managements arrangements and cover all provisions stipulated by the Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities /26/, including:</p> <ul style="list-style-type: none"> CME organizational structure PoA workflow Inclusion of a subsequent CPA Monitoring of CPAs Updating the PoA PoA documentation management Quality assurance and control Continuous improvement. <p>CAR 9 is therefore closed.</p>	CAR-9	OK
10.1.2	Does the operational and management system include clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies?	<p>Distribution of roles and responsibilities between the CME and CPA operators is described in the PoA-DD. However, roles related to monitoring and record keeping were inconsistent and not clear in the GSP PoA-DD. CL 15 was raised.</p> <p>ERM CVS reviewed the revised PoA-DD /1/ and confirmed that the Roles and Responsibilities of the CME and CPA implementing entity with respect to record keeping and monitoring are sufficiently clarified and have been checked against the CME management manual /23/.</p> <p>Under section B.7.2, the description of the operational and management has clarified the handling of records by the monitoring officer (CPA) and the programme officer (PoA), including how and when the data is to be transferred. The distribution of roles is feasible.</p>	CL-15	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		CL 15 is closed. The CME management manual /23/ provides a clear description of CME staff roles and responsibilities and reporting lines.		
10.1.3	Does the system include records of arrangements for training and capacity development for personnel?	The operational and management plan described in the GSP PoA-DD did not include arrangements for training and capacity development for personnel – please refer to CAR 9. CAR 9 was closed after Section C of the PoA-DD was revised by the PP and the CME management manual /23/ was provided, which sufficiently outlines the competence requirements for CME staff roles, as well as procedures for skills assessment and training.	CAR-9	OK
10.1.4	Does the system include procedures for technical review of inclusion of CPAs?	The operational and management plan described in the GSP PoA-DD mentioned quality check of the CPA inclusion. It was not clear if this will be considered as technical review, what procedure will be followed, and whether the process will be documented – please refer to CAR 9 CAR 9 is closed after the CME management manual /23/ was provided, which outlines provisions for an internal technical review to be conducted by programme managers and CME director.	CAR-9	OK
10.1.5	Does the system include 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)?	The operational and management plan described in the PoA-DD includes procedures to avoid double counting. The procedure is clearly explained, and was confirmed during interviews with the CME, as well as by reviewing the CME management manual /23/.	OK	OK
10.1.6	Does the system include records and documentation control process for each CPA under the PoA?	The operational and management plan described in the PoA-DD includes provisions for record keeping system /1/. Please refer CL 15: roles and responsibilities of the CME and CPA implementer in monitoring and record keeping were not sufficiently clear in the GSP PoA-DD. CL 15 was closed after the Roles and Responsibilities of the CME and CPA implementing entity with respect to record keeping and monitoring were sufficiently clarified and have been checked against the CME management manual /23/. Please refer to question 10.1.2 for more details.	CL-15	OK
10.1.7	Does the system include measures for continual improvements of the PoA management system?	Please refer to CAR 9, as the operational and management plan in the GSP PoA-DD did not include measures regarding continual improvements of the PoA management system. CAR 9 was closed after section C in the PoA-DD was revised and the CME management manual /23/ was provided, which include a section on 'Continuous Improvement' and sufficiently prescribes the procedures for improving the PoA management system.	CAR-9	OK

Conclusion

ERM CVS has assessed the operational and management arrangements which have been established by the CME in order to determine that these arrangements are suitable for the PoA being validated. The arrangements are considered to be sufficient to ensure that the CME will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme.

10.2 PoA Sampling Plan

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
10.2	<p>Has the CME chosen to produce a sampling method/procedure for use by DOEs rather than have all CPAs verified?</p> <p>If so is the method statistically sound and suitable for the PoA?</p>	N/A. The CME has opted for a verification method that does not use sampling but verifies each CPA.	OK	OK

Conclusion

No sampling will be involved in the proposed PoA.

11 Validation Findings – Monitoring plan of a Generic CPA

ERM CVS evaluated the monitoring plan for the PoA and generic CPA to ensure that it is based on the approved monitoring methodology that has been applied. As per the VVS, ERM CVS applied a two-step process, based on review of the documented procedures, interviews with relevant personnel, project plans and any physical inspection, to assess:

- a) *Compliance of the monitoring plan with the approved methodology*:
 - (i) By means of document review, identify the list of parameters required by the selected approved methodology;
 - (ii) Confirm that the monitoring plan contains all necessary parameters, that they are clearly described and that the means of monitoring described in the plan complies with the requirements of the methodology.
- b) *The Implementation of the monitoring plan*, taking into account:
 - (i) Whether the monitoring arrangements described in the monitoring plan are feasible within the generic CPA design;
 - (ii) Whether the means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CPAs and PoA can be reported ex post and verified.

11.1 Compliance of the monitoring plan with the approved methodology

ERM CVS validated whether the monitoring plan for a generic CPA in the PoA-DD includes all parameters necessary for monitoring of this type of project in accordance with the approved methodology that has been applied for the generic CPA. ERM CVS checked whether the parameters are clearly described and the means of monitoring described in the plan complies with the requirements of the methodology.

Completeness of monitoring parameters

The monitoring parameters required by the methodology and applicable tools are:

Parameter Name	Parameter Description	Is the parameter appropriately included in the Monitoring Plan? (including justification and substantiation of information, data and evidence)
$EG_{BL,y}$ ($EG_{facility,y}$)	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y	The parameter is appropriately included in the Monitoring Plan and is in accordance with the methodology. The quantity of electricity supplied to the grid will be measured continuously and recorded monthly. The basic measurement period shall be carried out in line with PPA.

Other required parameter - Quantity of fossil fuel consumed in year y - is not applicable to the proposed POA and is therefore not included in the monitoring plan of the generic CPAs.

Additional monitoring parameters required by the methodology and applicable tools specifically for CPAs involving Hydro power projects are:

Parameter Name	Parameter Description	Is the parameter appropriately included in the Monitoring Plan? (including justification and substantiation of information, data and evidence)
TEG_y	Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y	The parameter is appropriately included in the Monitoring Plan and is in accordance with the methodology. The total electricity generated by the project will be measured continuously and recorded at least monthly.
CAP_{PJ}	Installed capacity of the hydro power plant after the implementation of the project activity.	The parameter is appropriately included in the Monitoring Plan and is in accordance with the methodology. The installed capacity will be measured annually based on recognized standards.

Parameter Name	Parameter Description	Is the parameter appropriately included in the Monitoring Plan? (including justification and substantiation of information, data and evidence)
AP _J	Quantity of net electricity generation supplied by the project plant/unit to the grid in year <i>y</i>	The parameter is appropriately included in the Monitoring Plan and is in accordance with the methodology.

Other monitoring parameters from the methodology are not applicable to this PoA, as grid emissions factor is calculated and set ex-ante, and the PoA does not involve geothermal power plants and biomass.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
11.1.1	Are all required parameters included in the monitoring plan?	<p>Yes, the CPA is only required to measure $EG_{BL,y}$ for CPAs involving wind power plants, and additionally TEG_y, CAP_{PJ}, and AP_J for CPAs involving hydro power plants. This is in accordance with the methodology.</p> <p>The GSP PoA-DD also included monitoring parameters for CPAs that would involve solar thermal installations. However please refer to CL 9: further clarification /justification is needed as to how AMS-I.D can be applied to solar thermal power plants, considering the methodology does not mentioned solar thermal technology and methodological options for project emissions do not include project emissions for solar thermal power plants.</p> <p>CL 9 was closed after the PoA-DD was revised to exclude solar thermal energy. Please refer to CL 11: Please clarify if CPAs might have on-site consumption of fossil fuels due to the project activity, for example back-up generator.</p> <p>CL 11 was closed after the revised PoA-DD /1/ has been amended to clarify that CPAs will not include any combination of both renewable and non-renewable components. This is also specifically stated in the revised eligibility criteria.</p>	<p>CL-9</p> <p>CL-11</p>	OK

Conclusion

The monitored parameters included in the monitoring are complete and appropriate for monitoring of the generic CPA. In ERM CVS's opinion, the PPs are able to implement the monitoring plan.

Compliance of monitoring

For each parameter, ERM CVS has validated whether it has been addressed in accordance with the baseline and monitoring methodology.

Monitored Parameters	$EG_{facility,y}$	TEG_y	CAP_{PJ}	AP_J
Parameter Description correct?	Yes	Yes	Yes	Yes
Description in line with methodology?	Yes	Yes	Yes	Yes
Data unit correctly expressed?	Yes	Yes	Yes	Yes

Monitored Parameters	EG _{facility,y}	TEG _y	CAP _{PJ}	AP _J
Measurement method correctly described?	Yes	Yes	Yes	Yes
Measurement and recording frequency correctly described?	Yes	Yes	Yes	Yes
Correct reference to standards?	Yes	Yes	Yes	N/a
Indication of accuracy provided?	Yes (0.5S or 1 depending on a size of the CPA)	Yes (following the same standard as for EG _{facility,y})	N/a	N/a
QA/QC procedures described?	Yes	Yes	N/a – in line with the methodology	N/a – in line with the methodology
QA/QC procedures appropriate?	Yes	Yes	N/a – in line with the methodology	N/a – in line with the methodology

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
11.1.2	Are all required parameters appropriately monitored in accordance with the methodology (including applicable tools)?	<p>CL 16 was raised, as Section B.7.1 of the generic CPA part of the GSP PoA-DD did not include:</p> <ul style="list-style-type: none"> reference to minimum accuracy and applicable standards for EG_{facility,y} and TEG_y QA/QC procedures are not described for TEG_y Calibration frequency: please clarify the frequency or recognised standards <p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the Generic CPA section B.7.1. now includes QA/QC procedures, reference to meter accuracy levels and applicable standards, and calibration frequency for EG_{facility,y} and TEG_y. Accuracy requirements, and calibration frequency, will be required to be in compliance with the Code of practice electricity metering NRS 057:2009 /16/. The standard is relevant applicable national standard.</p> <p>CL 16 is closed.</p>	CL 16	OK

Conclusion

The means of monitoring all relevant monitored parameters complies with the requirements of the methodology, including applicable tools.

11.2 Implementation of the monitoring plan

ERM CVS evaluated the feasibility and sufficiency of the monitoring plan for a generic CPA. The key components of the monitoring plan are as follows.

Operational and management structure:

Please refer to validation of the operational and management plan.

Equipment:

The CPA implementers will provide Facility Metering (main meter), and National transmission company (currently ESKOM) or distribution company, as applicable, will provide a System Metering Installation (back-up meter). The exact locations where metering equipment will be installed may differ among CPAs. Main meters will in most cases be installed at the project substation and back-up meters - before or at the point of delivery to the national grid which defines the commercial boundary between the licensee and the customer. For hydro power CPAs with reservoir, meters for gross generation will be installed prior to internal loads and losses, and exact location will be specified at CPA level.

Quality Assurance and Quality Control (QA/QC) of equipment and data:

Meters will be calibrated and meter readings will be crosschecked with actual invoices sent by project owners to the grid company or with the registries provided to the project owners by the grid company of the energy delivered by the project to the interconnection substation

Given that specific monitoring plans will be developed on a CPA level, the framework for QA/QC procedures set out in the PoA DD is considered sufficient to ensure that emissions reductions can be monitored and reported accurately.

Feasibility of the monitoring plan:

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
11.2.1	Are the arrangements described in the plan feasible and practical? Please consider: (a) operational and management structure, including responsibilities (b) Plans for maintenance and calibration of equipment (c) Plans for QA/QC of equipment and data (d) Installation of monitoring equipment (whether in place, or planned)	At the time of the draft report this was to be confirmed following closure of CL 12 on the monitoring and record keeping roles and responsibilities, and CL 14 on QA/QC procedures and standards. CL 12 and CL 14 were closed following clarifications and revisions in the PoA-DD by the PP. Please refer to questions 8.5.1 and 8.5.2 for further details. ERM CVS confirmed that revised monitoring plan /01/ is feasible and practical, where the Operational and Management manual /23/ includes sufficient detail on the operational and management structure, including responsibilities, the plans for maintenance and calibration of equipment, the plans for QA/QC of equipment and data, and the installation of monitoring equipment (whether in place, or planned).	CL-12 CL-14	OK

Conclusion

Based on the validation activities performed, ERM CVS concludes that:

- (a) The monitoring plan of a generic CPA is fully in compliance with the requirements of the methodology;
- (b) The monitoring arrangements described in the monitoring plan of a generic CPA are feasible ;
- (c) The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CPAs can be reported ex post and verified.

The assessment conducted by ERM CVS is by means of review of the documented procedures, interviews with relevant personnel, and a visit to the site of the first real case CPA. In ERM CVS's opinion, the CME is able to implement the monitoring plan.

12 Validation Findings – Sustainable Development, Local Stakeholder Consultation and Environmental Impact

12.1 Sustainable Development

As per VVS section 7.8, ERM CVS evaluated whether the letter of approval by the DNA of the host Party confirms the contribution of the proposed CDM PoA to the sustainable development of the host Party.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
12.1.1	Does the LOA from the Host Party confirm that the PoA contributes to the sustainable development of that country?	The host country LoA was not provided during DVR stage. Please refer to CAR 1. The LoA has been subsequently been provided to the DOE /2/, and CAR 1 is closed. In the LoA, the Host Party does confirm that the PoA contributes to the sustainable development of South Africa.	CAR-1	OK

Conclusion

The LOA from the Host Party confirms that the PoA contributes to the sustainable development of that country.

12.2 Local Stakeholder Consultation

The stakeholder consultation will be conducted on a CPA level. This is appropriately described in the PoA-DD.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
12.2.1	Have comments from local stakeholders that can reasonably be considered relevant been invited prior to the publication of the PoA-DD on the UNFCCC website?	No – local stakeholder consultation is undertaken at CPA level. This is considered appropriate as possible implications for local stakeholders can vary substantially depending on type of technology and location of a CPA.	OK	OK
	Is the summary of comments received as provided in the PoA-DD complete?	N/a – comments by local stakeholders will be invited at CPA level.	OK	OK
	Has due account been taken of any stakeholder comments received and is this adequately and clearly described in the PoA-DD?	N/a – comments by local stakeholders will be invited at CPA level.	OK	OK

Conclusion

The CME has decided that comments by local stakeholders will be sought at the CPA level. This is described and reflected in the PoA-DD.

ERM CVS has therefore validated that the local stakeholder consultation procedures are in line with the CDM requirements.

12.3 Environmental Impacts

Environmental impacts are assessed on a CPA level. This is appropriately described in the PoA-DD.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
12.3.1	Has the PP conducted an environmental impact assessment if required to do so by the host Party, in accordance with the Party's procedures, and is this described adequately in the PoA-DD?	No – analysis of environmental impacts is undertaken at CPA level. This is considered appropriate as possible environmental impacts can vary substantially depending on type of technology and location of a CPA.	OK	OK
	Does the PoA include transboundary impacts, and if so are these impacts considered significant by the PPs or Host Party?	N/a – analysis of environmental impacts is undertaken at CPA level.	OK	OK

Conclusion

Environmental impacts are assessed at the CPA level, which is suitable and properly explained.

12.4 Public funding

ERM CVS also evaluated whether the information relating to public funding in the PoA-DD Annex 2 has been correctly presented.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
12.4.1	If the PoA involves public funding from an Annex 1 country, have the annex 1 parties involved provided an affirmation that such funding does not result in a diversion of official development assistance?	No public funding has been used for developing the PoA, and eligibility criteria include conditions to check that either no public funding is used, or public funding does not result in diversion of ODA.	OK	OK
	Is the information provided on public funding (PoA-DD, Annex 2) provided in compliance with the actual situation or planning?	Yes, this has been confirmed through interviews and checking of eligibility criteria	OK	OK

Conclusion

Public funding will be assessed and validated on a CPA level to ensure that if the CPA involves public funding from an Annex 1 country, the annex 1 parties involved provided an affirmation that such funding does not result in a diversion of official development assistance

Appendix A: Documents and Interviewees

A.1 DOCUMENT LIST

Reference number	Date	Document Title and version number (if applicable)
01	06 June 2012 30 November 2012	PoA Design Document for the proposed PoA Version 01 (for GSP) Version 03 (final)
02	29 October 2012	Host Country Letter of approval for the proposed PoA issued by the South African Designated National Authority
03	25 July 2012	Modalities of Communication for the proposed PoA.
04	06 May 2011	Integrated Resource Plan for Electricity 2010-2030
05	26 March 2009	South Africa Renewable Energy Feed-In Tariff (REFIT). Regulatory Guidelines
06	2006	NERSA Electricity Supply Statistics 2006
07	2011	ESKOM Annual Report 2011
08	04 May 2011	Electricity regulation on new generation capacity
09	2005 - 2008	National Energy Regulation Acts
10	03 August 2011	Request for qualification and proposals for new generation capacity under the IPP procurement programme, tender No. DOE/001/2011/2012, Department of Energy RFP- PART A - General Requirements & Rules RFP- PART B - Qualification Criteria RFP- PART C - Evaluation Criteria
11		Profile of Carbon Africa
12	27 January 2012	Carbon Africa Business Trading Permit
13	10 March 2009	Carbon Africa Certificate of Incorporation
14	October 2011	Transmission Ten-Year Development Plan 2012 - 2021
15	October 2012	15.1 Information on Climate Corporation Emissions Trading GmbH 15.2 Michael Baden (Passport copy) 15.3 Adriaan Belg (Passport copy) 15.4 Matthew Woods (Passport copy) 15.5 Carbon Africa Ltd Board Resolution
16		South African National Standard - Code of practice for electricity metering
17		IPCC Guidelines for National Greenhouse Gas Inventories – Volume 2, Chapter 2

Reference number	Date	Document Title and version number (if applicable)
18	01 Dec 2008 21 Jan 2010	Monitoring reports of CDM project No. 0446 PetroSA Biogas to Energy Project: http://cdm.unfccc.int/Projects/DB/PriceWaterhouseCoopers1148482596.97/view
19	2009	Monitoring reports of CDM project No. Bethlehem Hydroelectric project: 08 Oct 2009 - 31 Dec 2009
20	2007 - 2011	Monitoring reports of CDM project No. Durban Landfillgas-to-electricity project – Mariannhill and La Mercy Landfills 02 Nov 2007 - 28 Feb 2010 01 Mar 2010 - 30 Sep 2011
21	2009	Monitoring reports of CDM project No. Durban landfill gas Bisasar Road project: 26 Mar 2009 - 31 Aug 2009
22	January 2011	22.1 The Future of South African Coal: Market, Investment and Policy Challenges 22.2 SAWEA email – Cape Wind Projects and other R1 projects 22.3 Coastal Environmental Services – Mineral and Petroleum Resources Act
23	07 September 2012	PoA Management & CPA Inclusion Manual
24	2010	Environmental Impact Assessment Regulations
25	18 May 2012 13 December 2012	Grid Emission Factor Calculations Spreadsheet version 01 Spreadsheet version 02.3
26	03 December 2012	Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, version 02.1
27	25 July 2012	Email from ERM CVS sent Alden Alden to follow up on GSP comments

A.2 INTERVIEWS

Reference	Name	Title & Organisation	Main topics discussed
IV1	Adrian Taas	Director, Carbon Africa	PoA aims, eligibility criteria, application of methodology, additionality
IV2	Carlos Guerrero	Project manager, Carbon Africa	Eligibility criteria, application of methodology, additionality, PoA-DD completion
IV3	Howard Ramsden	CEO, Terra Power Solutions	PoA aims, portfolio of potential CPAs, first real case CPA, bidding process, permits
IV4	Neil Van Heek	Project manager, Terra Wind	Portfolio of potential CPAs, first real case CPA, bidding process

Appendix B: Remediation Form

Corrective Action Requests (CARs), Clarification Requests (CLs) and Forward Action Requests (FARs)

Corrective Action Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
CAR 1. Letter of Approval has not been provided	5.3.1	The LoA from the Host Party was subsequently provided to the DOE.	The LoA was received and checked by ERM CVS. Please refer to section 5.1 for details on how participation requirements were validated. CAR 1 is closed.
CAR 2. Modalities of Communication have not been provided	5.4.1	<p>Modalities of Communication have been provided to the DOE on the 06/09/2012</p> <p>Further evidences has been provided for the validation of the MoC in line with the VVS:</p> <ul style="list-style-type: none"> - Corporate Identity of Climate Corporation: Business license, Ref. /15/. This document also shows the shareholders and managing director. - Personal identity of director of Climate Corporation Emissions Trading and signatory of MoC. Passport picture Ref. /15/. As Director and Shareholder, the signatory is an authorized signatory. - Personal identities of directors of Carbon Africa and signatories of MoC. Passport pictures Ref. /15/. - Carbon Africa's Board Resolution on Authorized Signatories. Ref. /15/. 	<p>ERM CVS has reviewed the Modalities of Communication (MoC) /03/ against information in the revised PoA-DD /01/ and can confirm that the PoA name and PP names are consistent, correct version of the MoC form is used, and the form is filled in correctly.</p> <p>In line with the VVS, ERM CVS checked City of Nairobi's certificate of a Single Business granted to Carbon Africa Limited to confirm the corporate identity of the CME. ERM CVS also validated the corporate identity of Climate Corporation Emissions Trading GmbH and the personal identities, including specimen signatures and employment status, of the authorised signatories of both project participants. Please refer to section 5.4 for further details.</p> <p>CAR 2 is closed.</p>

CDM Validation Report



Corrective Action Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
CAR 3. The contact details of the project participant Climate Corporation Emissions Trading GmbH have not been included in Annex 1 of the PoA-DD. Please correct	5.4.1	The contact details of Climate Corporation Emissions Trading GmbH have now been included in Appendix 1 of the PoA-DD	ERM CVS reviewed the revised PoA-DD /01/ and confirmed that the contact details for Climate Corporation Emission Trading GmbH have been added under appendix 1. The contact details were checked against the completed MoC /03/ and are confirmed to be consistent. CAR 3 is closed.
CAR 4. The criterion in Option B.2 for demonstrating CPA additionality is not sufficient. If the CPA is implemented by a state-owned company or one of the top companies in South Africa, they can have access to capital. Please justify /correct this option for demonstrating CPA additionality	7.1.6	<p>Option B.2 has been corrected in version 02 of the PoA-DD /01/ to include more strict criteria for demonstration of additionality through Option B.2.</p> <p>In version 03 of the PoA-DD, the criterion has been modified following the DOE's comments. According to the Guidelines for objective demonstration and assessment of barriers (version 01.0), what this additionality criteria should evidence is that there raising of finance was assured thanks to the CDM benefit, which is evidenced by the first two criteria: the CPA implementing entity has signed a loan agreement/term sheet with a company that also buys the CERs and it explicitly mentions that it requires the transfer of CERs to the facilitating entity since this shows that the loan was assured due to the benefit of the CDM; or, the CPA implementing entity has received a significant part of the project investment as a pre-payment for expected CERs. The nature of the shareholding of the project and the financial statements will be provided to the DOE to support the assessment of the relevance of either of the previous criteria to access to finance..</p> <p>The South African Stock Exchange has been changed by the South Africa stock market, the Johannesburg Stock Exchange (JSE).</p>	<p>ERM CVS reviewed the revised PoA-DD /01/ and checked against the Guidelines on the demonstration of additionality for small-scale project activities, Non-binding best practice examples to demonstrate additionality for small scale project activities, and Guidelines for the objective demonstration and assessment of barriers.</p> <p>The access-to-capital additionality criterion has been sufficiently amended. Please refer to question 7.1.6 of the validation report for further details.</p> <p>CAR 4 is closed.</p>
CAR 5. Option B.3 for demonstrating CPA additionality is not compliant with the valid	7.1.6	The PP agrees with the DOE and therefore Guidelines on common practice are no longer used on their own to	ERM CVS reviewed the revised PoA-DD and checked it against the Guidelines on the demonstration of

Corrective Action Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
<p>guidelines:</p> <ul style="list-style-type: none"> Guidelines on common practice were no longer valid on their own at the time of starting validation of this PoA, as their requirements were incorporated into the Tool for the demonstration and assessment of additionality version 06 valid from 25 Nov 2011. Common practice analysis in this Tool is a step to support investment or barrier analysis rather than a step on its own to demonstrate additionality. Barrier due to prevailing practice as defined in Guidelines on the demonstration of additionality of small-scale project activities is different from common practice test in the additionality tool, and their purposes are different. <p>Please correct this option to demonstrate CPA additionality</p>		<p>demonstrate additionality.</p> <p>A footnote has been included in the PoA-DD stating that the definitions applied for the terms such as applicable geographical area, measure and different technology will be based on the Guidelines on additionality of first-of-its-kind project activities version 02.0. Therefore the PoA refers back to the definitions applied in the guidelines.</p>	<p>additionality for small-scale project activities, Non-binding best practice examples to demonstrate additionality for small scale project activities, and Guidelines on additionality of first-of-its-kind project activities. The barrier correctly no longer refers to the guidelines on common practice.</p> <p>For the purpose of demonstrating first-of-its-kind barrier, the revised PoA-DD /01/ has been correctly amended to explain how the geographical area, measure and technology are relevant.</p> <p>CAR 5 is closed.</p>
CAR 6. Provision of the methodology related to leakage when methodology is applied for PoAs (paragraph 27) was not discussed in the PoA-DD. Please correct the PoA-DD.	8.2.1	Section B.2 of the PoA-DD now includes additional methodology applicability criteria related to leakage for PoAs.	ERM CVS reviewed the revised PoA-DD and confirms that the methodology applicability criteria has been correctly amended in Section B.2. For further details on how it was validated whether the POA meets methodology applicability conditions please refer to section 8.2 of the validation report.

CDM Validation Report



Corrective Action Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
			CAR 6 is closed.
CAR 7. Sections on emission sources and GHGs, methodological choices, and ex-ante calculations are not separated per technology type. Please correct the PoA-DD.	8.3.1	<p>Section B.3 now separates the GHG emissions based on the type of technology.</p> <p>Sections B.6.1 and B.6.3 now identifies all the different technology types with regards to ex-ante calculations.</p>	<p>ERM CVS reviewed the revised PoA-DD and confirms that sections on emission sources and GHGs, methodological choices, and ex-ante calculations have been correctly separated per technology type and are in accordance with the applied methodology.</p> <p>CAR 7 is closed.</p>
CAR 8. Power units included in a sample group for calculating BM correspond to the sample group $SET_{\text{sample-DEM-}>10\text{yrs}}$ but option A1 from Step 4(a) is used for calculating $FE_{EL,m,y}$. This is not in accordance with the Tool, which requires option A2 to be used in such case. Please correct calculations.	8.5.2	The calculation of BM in Section B.6.1 is now in accordance with the tool. Option A2 (equation 3) instead of option A1 is used for calculating $EF_{EL,m,y}$.	<p>ERM CVS reviewed the revised PoA-DD and the revised Grid Emissions Factor spread sheet against the Tool to calculate the emissions factor for an electricity system, and can confirm that Option A2 is now correctly used in Step 4(a).</p> <p>CAR 8 is closed.</p>
CAR 9. Operational and management system does not cover the following provisions of Paragraph 17 of EB 65 Annex 3: records of arrangements for training and capacity development for personnel, procedures for technical review of inclusion of CPAs, and measures for continual improvements of the PoA management system	10.1.1, 10.1.3, 10.1.4, 10.1.7	<p>The management system included in the revised version of the PoA-DD has been re-drafted taking into consideration CAR9.</p> <p>The CME management manual as well as section C of the PoA-DD have been revised based on the validator's comment.</p>	<p>ERM CVS reviewed the revised PoA-DD /1/, and the "PoA Management and CPA Inclusion Manual" /23/, and confirms that Section C: Management System has been amended to include:</p> <ul style="list-style-type: none"> - Records of arrangements for training and capacity development for personnel - Procedures for technical review of inclusion of CPAs - Measures for continuous improvements of the PoA management system <p>These sections provide sufficient information to meet the provisions of Paragraph 17 of Standard for demonstration of additionality, development of eligibility criteria and</p>

CDM Validation Report



Corrective Action Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
			<p>application of multiple methodologies for programme of activities /26/, which later during validation became Paragraph 19 when the version of the Standard changed from 01 to 02.1.</p> <p>The CME management manual provides a synopsis of all the operational and managements arrangements and cover all provisions stipulated by the Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities /26/.</p> <p>CAR 9 is closed.</p>

Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
CL 1. The PoA description in the PoA-DD is not clear on how applicable national and/or sectoral policies and regulations within the chosen boundary have been considered in defining the PoA boundary and its goal/stated aim. Please clarify	6.4.1	<p>Additional explanations on how national and/or sectoral policies and regulations have been considered in defining the PoA boundary and its goal/stated aim.</p> <p>Further evidence on the change of requirements are provided as Ref. /22/. Also, delays on the IPP programme can be evidenced as per the website on the programme notice "Bidders are advised that the Department has revised and updated its timetable for the IPP Procurement Programme as set out in clause 10 of Part A of the RFP. The Department has identified the need to update the timetable as a result of market constraints to achieving Financial Close in respect of the First Bid Submission Phase projects and the Government's delay in procuring the various consents it is</p>	<p>ERM CVS reviewed the revised PoA-DD and confirms that the section "Policy/measure or stated goal of the PoA" has been sufficiently amended to show how national and sectoral policies and regulations have been considered in defining the PoA boundary and its goal.</p> <p>Renewable Energy Feed-in Tariff (REFIT) and the IPP Procurement Programme are referenced to describe the uncertainties in the South Africa independent power producing market. The described changes in the regulations from REFIT to IPP procurement programme were validated based on review of the South Africa Renewable Energy Feed-In Tariff (REFIT) Regulatory Guidelines /05/, NERSA Consultation Paper</p>

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
		required to obtain. The Department regrets this delay. The updated key milestone dates in respect of the first, second and third Bid Submission Phases are set out under the heading 'Milestones' below." Accessed on 12/10/2012 http://www.ipprenewables.co.za/	<p>"Renewable Energy Feed-In Tariff Phase 2", NERSA Decision in the matter regarding Renewable Energy Feed-In Tariff Phase 2 /04 - 09/, Review of the Renewable Energy Feed-In Tariffs Consultation Paper /05/, and Tender DOE/001/2011/2012 (Request for proposals under the Independent Power Producers programme) /10/, as well as confirmed it based on interview with NERSA representatives.</p> <p>Changes to the connection requirements by Eskom, uncertainties in the rezoning rules and new requirements on mineral permits have been confirmed in interview with Terra Power Solutions, the project development partner of the CME.</p> <p>Please also refer to question 6.4.2 of the report for further details.</p> <p>CL 1 is closed.</p>
<p>CL 2. Description of the PoA is not sufficient to provide a clear understanding of a PoA and it is not clear what information will be specified at CPA level:</p> <p>a) Typical layout has not been included with main equipment and installations, including key monitoring equipment</p> <p>b) Description is not clear on what details will have to be provided for each CPA in order to provide</p>	6.4.4	<p>Description of the PoA has been updated in the revised version of the PoA-DD.</p> <p>a) Typical layout/description has been included in section A.6 of the PoA-DD</p> <p>b) A description has been included in section A.6 of version 2 of the PoA-DD on what details will have to be provided by each CPA.</p> <p>c) A general description of the technology transfer has been added. More specific case by case technology transfer will be described for each CPA separately at CPA level.</p>	<p>ERM CVS reviewed the revised PoA-DD and confirms that:</p> <ul style="list-style-type: none"> - Section A.6 has been amended to include typical layout, and information regarding the typical equipment/ installations and key monitoring equipment for Wind power, Solar PV and Hydro power (run-of-river and accumulated reservoir). - Section A.6 now includes tables for each technology for each CPA to provide sufficient details to provide a clear description of actual CPAs, including installed capacity, equipment

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
<p>clear description of actual CPAs</p> <p>c) Information on technology transfer is not included</p> <p>d) The grid to which electricity will be supplied is not specified</p> <p>e) It is not clear what type of solar thermal technologies will be covered. The description refers that energy can be used directly in process heat applications or converted to electricity. Will PoA include solar thermal plants that produce heat?</p> <p>Please clarify</p>		<p>d) The grid has been consistently defined as the South African national electricity grid.</p> <p>e) Solar thermal technologies are excluded from the PoA version 02</p>	<p>type and lifetime, and plant load factors</p> <ul style="list-style-type: none"> - A brief description of technology transfer has been included. As technology provider and arrangements may differ between the CPAs it is suitable that more detailed information is specified at CPA level. - The grid has been consistently defined as the South African national electricity grid. - Solar thermal technologies have been excluded from the PoA <p>CL 2 is closed.</p>
CL 3. Please clarify how CME will ensure CPAs meet eligibility criteria on double counting	7.1.2, 7.1.12	<p>The CME will ensure double counting is avoided through the following ways:</p> <ul style="list-style-type: none"> - Having an agreement with the CPA where the CPA legally confirms its unique adhesion to this PoA as CDM component project activity; - cross-check evidence on the CDM website on the non existence of similar CDM project activities/component project activity; - For the purpose of identification, each CPA will have a unique name, which will at least refer to the location of the CPA and the installed capacity of the project. - The CME will also confirm that there is no geographical overlap between the CPA and another single CDM project or CPA of the same type 	<p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that procedures include checks to be carried out by the CME to validate confirmations provided by CPA operators on how they meet criteria on avoiding double counting.</p> <p>The procedures have been confirmed by reviewing the CME management manual /23/.</p> <p>The criteria on avoiding double counting are now sufficiently clear and verifiable.</p> <p>CL 3 is closed.</p>

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
CL 4. It is not clear if performance specifications and compliance with testing/certifications have been considered in defining the eligibility criteria. Please clarify	7.1.3	<p>Performance specifications and compliance with testing/certifications have been considered in eligibility criteria included in the revised version of the PoA-DD. Those certifications have been derived from the applicable IPP bidding process requirements in South Africa: Request for Qualification and Proposals for new Generation Capacity under the IPP Procurement Programme Part B: Qualification Criteria. In case of wind power, turbine model will be certified to IEC 64100 standard. In case of solar power, solar module will be certified to IEC/EN 61215 and IEC/EN 61730 standards. In case of concentrated solar photovoltaic, IEC 62108 will be applied.</p> <p>It has been further clarified in the PoA-DD that IEC certification is only an additional evidence and feasibility studies, PPA, or EIA report can still evidence the deployment of a specific technology.</p>	<p>ERM CVS reviewed the revised PoA-DD /1/ and can confirm that eligibility criteria include performance specifications and compliance with testing/certifications. The certification standards specified in the PoA-DD were validated against the Part B of the Request for qualification and proposals for new generation capacity under the IPP procurement programme.</p> <p>CL 4 is closed.</p>
CL 5. Please clarify what criteria the CME will apply for assessing credibility of project documentation/feasibility studies provided as evidence on compliance with eligibility criteria	7.1.3, 7.1.10	<p>For the inclusion of a CPA, CPA implementing entities will be required to provide supporting evidences and information to confirm that all eligibility criteria are met. For the purpose of the following types of documentation will be accepted as being objective and credible:</p> <ul style="list-style-type: none"> - Documentation that has been prepared by an experienced third party - Documentation that has been approved or issued by South African governmental authorities 	<p>ERM CVS reviewed the revised PoA-DD /1/ and confirmed that criteria have been included for assessing the credibility of project documentation/feasibility studies to be used as evidence for showing compliance with the PoA eligibility criteria.</p> <p>CL 5 is closed.</p>

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
		<ul style="list-style-type: none"> - Documentation that carries an official signature from the CPA implementing entity, CME or project participant - Documentation that has been submitted to or received from financing institutions like banks and equity providers - Documentation submitted for official purposes such as documents submitted to South African authorities as part of the Request for qualifications and proposals for new generation capacity under the IPP procurement programme <p>As documentation with an official signature from the CPA implementing entity, CME or project participant may not be sufficiently objective on its own for some cases, so those will only be valid for the following criteria:</p> <ul style="list-style-type: none"> - Double counting. The nature of these criteria can only be evidenced by signed confirmations from the CME and the CPA implementing entity. However, the veracity of those are easily demonstrable by the DOE. - Technology. In those cases where the non-deployment of non-renewable energy sources is not explicitly described in the feasibility study, PPA, or EIA report, a letter from the CPA implementing entity may suffice as supporting confirmation as the non-mention of those types of components is already evidencing it. - Investment decision date. The investment decision is taken by the project developer and therefore its proof is normally based on Board Resolution or Board 	

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
		<p>Minutes. However, this decision can be backed up by independent third party studies such as energy resource assessments.</p> <ul style="list-style-type: none"> - Stakeholder consultation. When the stakeholder consultation is held strictly for CDM purposes, the consultation and its reports are normally taken by the CME and therefore it must be accepted. Signed participation lists and pictures should support those reports. - ODA diversion. When there is no use of public funding by the project developer, its non-existence can only be evidenced by a signed confirmation by the project developer. - The agreement between the CME and the CPA for participation in the PoA is a legally binding document and therefore it can be used for confirmation purposes. 	
CL 6. Agreement with equipment, construction or operation provider is suggested as main evidence of compliance for the eligibility criterion on the starting date. However, an agreement with the equipment or – moreover – construction or operation services provider, might not yet be available at the time of CPA inclusion. Please clarify how compliance with the criterion will be ensured	7.1.4	<p>Since an agreement with the equipment or construction/operation services may not be available at the time of CPA inclusion, it can be concluded that the CPA start date will definitely be after the start of validation of the PoA (12/06/2012).</p> <p>Changes have been made to the PoA-DD to reflect that the dates of any of the three contracts (if separately done) are applicable. The date that comes first will be taken as the CPA start date.</p>	<p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the PoA start date has been changed to the date at which the PoA validation started (12/06/2012). As PoA is a framework (without CPAs included yet) and does not involve investments into equipment, validation of the PoA is considered as implementation and therefore the identified date complies with the CDM Glossary of Terms.</p> <p>The eligibility criterion on CPA start date has been amended. The criterion states that the CPA starting date must be after the starting date of the POA and it suggests that for any CPA, the starting date is a date when an agreement with an equipment manufacturer or</p>

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
			<p>construction/operation services is signed.</p> <p>CL 6 is closed.</p>
CL 7. Please update the options to demonstrate CPA additionality with the latest version of the Guidelines on the demonstration of additionality of small-scale project activities	7.1.6	<p>The revised PoA version has excluded Foik as a separate additionality criterion. Foik barrier will be applied in order to prove the prevailing practice barrier.</p> <p>Any reference to the Guidelines on common practice has been excluded from the PoA version 02</p>	<p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that first-of-its-kind is no longer a separate additionality criterion, but correctly included as the 'Barrier due to prevailing practice' criterion.</p> <p>CL 7 is closed.</p>
CL 8. If the CPAs using Investment barrier are to use Tool for the demonstration and assessment of additionality, it is not clear which how the steps of the Tool for the demonstration and assessment of additionality will have be applied and howto demonstrate CPA additionality. E.g. it is not clear what benchmark would be acceptable, which indicator should be used and why, etcand. Please clarify	7.1.6	<p>Reference to the Tool for the demonstration and assessment of additionality has been excluded from the PoA revised version. In order to proof the existence of an investment barrier, the PoA will refer to Guidelines for demonstration of additionality of small-scale project activities and to the Non-binding best practice examples to demonstrate additionality for SSC project activities in combination with the Guidelines on the assessment of investment analysis.</p> <p>Version 02 of the PoA-DD also states which benchmarks are applicable and which indicator should be used and why:</p> <p>The pre-tax, nominal Weighted Average Cost of Capital is an appropriate benchmark because it circumvents the impact of loan interest on income tax calculations (see also paragraph 11 in the Guidelines on the assessment of investment analysis (version 05). The post-tax nominal Return on Equity is considered an appropriate benchmark because equity investors and shareholders are mostly interested in after tax cash flows.</p>	<p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the provisions in the "Guidelines on the demonstration of additionality of small-scale project activities", the "Non-binding best practice examples to demonstrate additionality for SSC project activities", and "Guidelines on the assessment of investment analysis" are prescribed when demonstrating additionality using Investment barrier. The "Tool for the demonstration and assessment of additionality" is not mandatory for the small scale project activities, and the methodology also does not prescribe its use, therefore it is acceptable if the CPAs do not follow it closely when demonstrating investment barrier.</p> <p>ERM CVS confirmed that Guidelines on the assessment of investment analysis have been correctly followed in prescribing acceptable financial benchmarks.</p> <p>CL 8 is closed.</p>

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
CL 9. Please provide further clarification /justification as to how AMS-I.D can be applied to solar thermal power plants, considering the methodology does not mentioned solar thermal technology and methodological options for project emissions do not include project emissions for solar thermal power plants.	8.2.1	Reference to the use of solar thermal power plants has been removed from the PoA-DD and generic CPA-DD as solar thermal plants will not be included in this PoA.	ERM CVS reviewed the revised PoA-DD /1/ and confirms that the solar thermal technology has been removed from this PoA, and any reference to it in the PoA-DD or generic CPA-DD is also removed. CL 9 is closed.
CL 10. It is not clear from the description of the PoA in section A of the PoA-DD in what case a CPA could involve both renewable and non-renewable components. Please clarify	8.2.1	The PoA-DD will not include the combination of both renewable and non-renewable components. This has been clarified In the PoA-DD and generic CPA-DD.	ERM CVS reviewed the revised PoA-DD /1/ and confirms that Sections A.2, A.6, B.2, B.3 B.6 of the PoA (Part I), and sections A.1, B.2, B.5, B.6 (Part II) have been amended to clarify that CPAs will not include any combination of both renewable and non-renewable components. This is also specifically stated in the eligibility criteria. CL 10 is closed.
CL 11. Please clarify if CPAs might have on-site consumption of fossil fuels due to the project activity.	8.3.1	Due to the fact that the combination of renewable/non-renewable components has been removed and due the fact that the PoA does not involve geothermal CPAs, on site fossil fuel consumption is not considered for any applicable CPA.	ERM CVS reviewed the revised PoA-DD /1/ and can confirm that the PoA-DD and generic CPA-DD are clear that CPAs will not involve any on-site fossil fuel consumption CL 11 is closed.
CL 12. Please clarify and describe transparently how for CDM projects values of EG _{m,y} were derived for 3 years considering that monitoring reports are not available for all 3 years.	8.5.1	Calculations on EG _{m,y} for CDM projects have been estimated based on the existing monitoring reports on the CDM website. As noted by the DOE, the monitoring reports are not available for three years. However, it is considered to be more conservative to include an estimate for the electricity generation for the CDM projects for the calculation of the BM than to assume that there was no electricity generation by the CDM projects for the years during which no data was available. Based on the number of months and the electricity generation reported in the monitoring report, the project	ERM CVS reviewed the revised PoA-DD, and the PP's response. The DOE can confirm that as some of the relevant CDM projects do not have completed 3 years of monitored data, it is acceptable to estimate the data based on information in available monitoring reports as this is more conservative than assuming no electricity generation. The explanation is included in full in the revised PoA-

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
		<p>proponent has first calculated the electricity generation per month and has then estimated the annual electricity generation.</p> <p>This explanation has been included in the PoA-DD.</p>	<p>DD.</p> <p>CL 12 is closed.</p>
CL 13. Electricity generated from Independent Power Producers and Municipality owned power plants is not available and is not included in calculations in GSP PoA-DD. However it is not clear what type of power plants are operated by IPPs and Municipalities and if excluding them from calculations is conservative. Please clarify it and justify the approach used	8.5.2	<p>NERSA as the regulator of the electricity sector in South Africa published the Electricity Supply Statistics for South Africa in 2006, which shows all power plants (ESKOM plants, Municipal plants and IPPs) connected to the grid at that time. However, NERSA has never published a more recent version and therefore electricity generation data for Municipal and IPPs (except of projects registered as CDM projects) is not available. Therefore only ESKOM power plants and registered CDM power plants have been considered, which is conservative due to the fact that the majority of Municipal and IPP power plants are based on coal/bagasse (see reference supplied to DOE as 2.7)</p>	<p>ERM CVS reviewed the revised PoA-DD, the Electricity Supply Statistics for South Africa in 2006 /6/ (corresponding to reference 2.7 as referred to by the PP), and the PP response, and confirms that it is not possible to include power plants operated by IPPs and Municipalities, as the data is not available. It was confirmed during interviews with the NERSA representatives that the above-referred publication from 2006 is the latest publicly available information source on electricity generation from municipal and IPP-owned power plants.</p> <p>Based on review of data on net electricity generation from municipal and IPP-owned power plants in 2006, ERM CVS can confirm that coal-based net generation constituted 97% of the total from these sources. After taking out own consumption, the share is even higher, 98.9%. As this is the latest information available, it is reasonable to use it for justification. As the generation from these plants is primarily coal-based, the PP's claim that it is conservative to exclude these power plants from calculations of grid emissions factor is justified.</p> <p>CL 13 is closed.</p>
CL 14. The PoA-DD states that the PoA will not use energy generating equipment that is transferred from another activity and therefore leakage emissions are not considered. However, eligibility criteria of the PoA does not include this condition	8.5.2	<p>The eligibility criteria in the PoA-DD now includes a condition that the PoA will not use energy generating equipment that is transferred from another activity and therefore leakage emissions are not considered. Evidence of this includes a confirmation letter that the CPA will not involve the use of generating equipment transferred from another project by a third party contracted by the project participants (e.g. an</p>	<p>ERM CVS reviewed the revised PoA-DD /1/ and confirms that the eligibility criteria, under Technology (c), has been correctly amended to include a condition that the PoA will not use energy generating equipment that is transferred from another activity.</p>

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
therefore it is not clear how it will be ensured that no CPA will use equipment from another activity		engineering company) or confirmation by equipment supplier. The criterion has been modified and now it needs to be validated at inclusion stage. Further explanation on this criterion in CL5.	CL 14 is closed.
CL 15. Roles and responsibilities of the CME and CPA implementer in monitoring and record keeping are not sufficiently clear. Please clarify and revise PoA-DD as necessary	10.1.2, 10.1.6	The revised version of the PoA DD described the roles and responsibilities of the CME and CPA implementer in a more detailed way Section C: Management System has been revised based on the validator's comment.	ERM CVS reviewed the revised PoA-DD and confirmed that the Roles and Responsibilities of the CME and CPA implementing entity with respect to record keeping and monitoring are sufficiently clarified and have been checked against the CME management manual. Under section B.7.2, the description of the operational and management has clarified the handling of records by the monitoring officer (CPA) and the programme officer (PoA), including how and when the data is to be transferred. The distribution of roles is feasible. CL 15 is closed.
CL 16. Section B.7.1 of the generic CPA part does not include: a) reference to minimum accuracy and applicable standards for $EG_{facility,y}$ and TEG_y b) QA/QC procedures are not described for TEG_y c) Calibration frequency: please clarify the frequency or recognised standards	11.1.2	The revised version of the PoA includes: a) Reference to minimum accuracy an the relevant standards b) QA/QC procedures for TEG_y c) Reference to calibration frequency	ERM CVS reviewed the revised PoA-DD /1/ and confirms that the Generic CPA section B.7.1. now includes QA/QC procedures, reference to meter accuracy levels and applicable standards, and calibration frequency for $EG_{facility,y}$ and TEG_y . Accuracy requirements, and calibration frequency, will be required to be in compliance with the Code of practice electricity metering NRS 057:2009. The standard is relevant applicable national standard. CL 16 is closed.

CDM Validation Report



Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
Please revise section B.7.5 of the generic CPA part of the PoA-DD			

ERM CVS found that it was not necessary to raise any Forward Action Requests (FARs).