

<b>PoA Title</b>	Solar PV Power Development Programme in Shandong Province
<b>Real Case CPA Title</b>	"Datang Qingyun Solar PV Power Project" CPA-001
<b>ERM CVS Project Reference</b>	2321.V1
<b>Client Name</b>	Blue World Carbon Capital PCC
<b>Client Address</b>	Channel House, Green Street, St Helier, Jersey, JE4 5UT

## CDM Validation Report

### ERM Certification and Verification Services

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## Abbreviations

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH <sub>4</sub>	Methane
CL	Clarification request
CME	Coordinating/Managing Entity
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> 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

NCPG	The North China Power Grid
SCII	SinoCarbon Innovation & Investment Co., Ltd
NDRC	National Development and Reform Committee

# 1 PoA Information

## 1.1 Key information

<b>PoA Title</b>	Solar PV Power Development Programme in Shandong Province
<b>PoA Location(s)</b>	Shandong Province, China
<b>Host Party(ies)</b>	China
<b>Other Party(ies)</b>	United Kingdom of Great Britain and Northern Ireland
<b>Coordinating/Managing Entity</b>	SinoCarbon Innovation & Investment Co., Ltd.
<b>Project participants</b>	1. SinoCarbon Innovation & Investment Co., Ltd. 2. Blue World Carbon Capital PCC

<b>Methodology(ies) used</b>	AMS-I.D.: Grid connected renewable electricity generation, Version 17, EB 61; AMS-I.F.: Renewable electricity generation for captive use and mini-grid, Version 02, EB 61
<b>Methodological tool(s) used</b>	Tool to calculate the emission factor for an electricity system, Version 02.2.1
<b>Sectoral Scope(s)</b> (as per <a href="http://cdm.unfccc.int/DOE/scopes.html">http://cdm.unfccc.int/DOE/scopes.html</a> )	1 Energy industries (renewable - / non-renewable sources)


<b>PoA Design Document GSP Version</b>	Date: 24 May 2012	<b>PoA Design Document Final Version</b>	Date: 12 November 2012
	Version Number: 1.0		Version Number: 2.0

<b>Starting date of the PoA</b>	31 May 2012 (the date of GSP started)
<b>Duration of the PoA</b>	28 years

<b>Date(s) of validation site visit</b>	07 June 2012
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## 2 Summary and Validation Opinion

<b>PoA Title</b>	Solar PV Power Development Programme in Shandong Province
<b>Name of Client</b>	Blue World Carbon Capital PCC
<b>Basis of validation</b>	<p>ERM CVS based its validation work on:</p> <ul style="list-style-type: none"> <li>• CDM approved monitoring methodologies AMS-I.D.: Grid connected renewable electricity generation, Version 17, EB 61; AMS-I.F.: Renewable electricity generation for captive use and mini-grid, Version 02, EB 61</li> <li>• CDM Validation and Verification Standard (version 03.0)</li> <li>• Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities Version 02.1, EB70 Annex05</li> <li>• ERM CVS's internal CDM validation methodologies and protocols</li> <li>• CDM decisions and guidance issued by the CDM Executive Board including EB 65 Annex 3</li> <li>• UNFCCC criteria for the Clean Development Mechanism</li> <li>• Host Country criteria for the Clean Development Mechanism</li> </ul>
<b>Responsibilities of ERM CVS</b>	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.
<b>Responsibilities of Project participants</b>	The CME is responsible for preparing the PoA-DD and 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.
<b>Activities performed</b>	<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 report 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>
<b>ERM CVS Conclusion</b>	<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 Parties involved in the project fulfil the criteria for participation in the CDM, and have 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 PoA. 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 typical CPA) meets the applicability criteria and correctly applies methodology AMS-I.D.: Grid connected renewable electricity generation, Version 17, EB 61; AMS-I.F.: Renewable electricity generation for captive use and mini-grid, Version 02, EB 61, 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</p>

	<p>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 2.0 of 12 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>
<b>Signed on behalf of ERM CVS</b>	
<b>Name:</b>	Melanie Eddis
<b>Date:</b>	27 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 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/management 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 the CDM-POA-DD and the CDM-CPA-DD to be used for inclusion of a CPA in the registered PoA.

#### 3.1.1 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) and real case CDM Programme Activity design document applied to an example CPA (real case CPA-DD)<sup>1</sup> and associated documentation. The PoA-DD and 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 and 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.

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<sup>1</sup> Base on applying the methodology AMS-I.D. Throughout this report, reference to the real case CPA-DD refers to the first CPA-DD included and applied the methodology AMS-I.D.



## 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?
Dong Nan	Team Leader	Yes	Fully Competent	No	Yes
Han Lei	Assessor under Training	No	Partially Competent	No	Yes
Neringa Pumputyte	Support Validator	Yes	Fully Competent	No	No

### DOE Head Office

Name	Role	CDM Requirements	Knowledge relevant to the technical area
Jonathan Avis	Technical Reviewer	yes	Fully Competent

## 3.5 Summary of CVs of the validation personnel

**Dong Nan** is a Lead Auditor based in Beijing with experiences in the validation and verification of more than 80 CDM projects, including wind power, hydro power and energy efficiency projects. He holds a Master's Degree in Environmental Science and Engineering and has practical experience in the fields of environmental impact assessment for both of projects and planning (nuclear power plant, railway, urban planning), planning and design of urban wastewater treatment, urban water supply and urban solid waste treatment, and environmental management, resource conservation and cleaner production in various industries. He also received training in Emission reduction monitoring and Financial analysis. He is fully competent as a lead validator and verifier in scope of wind power and has extensive wind power experience.

**Han Lei** is a GHG Auditor based in Beijing office. He holds a Master Degree in Chemical Engineering, having an overall experience of 6 years. Prior to working as GHG Auditor, he has 3 years on-site experience in waste heat recovery and reuse of waste and by-products in chemical processes and biomass power, including energy efficiency analysis, recycling design of waste and biomass residues. He also has three years' experience in validation and verification of more than 10 CDM projects including wind power, hydropower, natural gas combined cycle and PV power generation projects. His qualification, industrial and CDM experience demonstrates his sufficient competence in "Chemical Industries" and "Renewable and Non-Renewable Energy" projects.

**Neringa Pumputyte** has been working in CDM for the past 5 years, initially as a consultant and project developer and now as a client account manager and assessor. Neringa has completed 2 validations as an assessor in LFG and fugitive emissions (oil and gas) and a verification in demand-side energy efficiency, and is working on validation of three PoAs. Neringa has worked with a project developer on hydro and cook stove projects as well as numerous waste handling projects. Neringa has completed the ERM CVS CDM training, as well as gold standard general and methodology training. Neringa holds a BSc and MSc in Geography from Vilnius University, and an MSc in Environmental Change and Management from the University of Oxford.

**Jonathan Avis** is CDM Business Manager for ERM CVS, and a GHG Assessor and Technical Reviewer with over 6 years' experience in the CDM. Since joining ERM CVS Jonathan has worked as a Technical Reviewer or GHG Assessor on more than 30 CDM validations in Renewable Energy (scope 1), more than 10 CDM validations in Manufacturing Industries (scope 04), 6 CDM validations in Mining (scope 8), and 5 CDM validations in Waste Handling and Disposal (scope 13). Jonathan's previous work experience involved screening and due diligence of carbon projects, Project Design Document (POA-DD) development, quality assurance and technical review of CDM project documentation, the development of carbon monitoring plans, and management of carbon projects through the validation, registration and verification stages. Jonathan has completed the ERM

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CVS CDM training as well as the GHGMI Renewable Energy training and Gold Standard training. Jonathan holds a BA in Geography and an MSc in Environmental Change and Management from the University of Oxford.

## 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:

1. Upload of the PoA-DD and real case CPA-DD for Global Stakeholder Process (GSP), receipt of any comments from stakeholders
2. Review of documentation including PoA-DD and real case CPA-DD applied to the first CPA, methodology and key supporting documents and references
3. A site visit including Interviews with personnel responsible for developing the PoA and first CPA and a site visit to the first CPA.
4. 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
5. Resolution of outstanding issues (CARs and CLs) and development of a final validation report and validation opinion
6. 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 31 May 2012 to 29 June 2012.

No comments were received.

### 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 interviews with the CME and operator of the first CPA, as well as a tour of the real case CPA project site, which is described in a separate CPA validation report.

Site visits and interviews provide additional information 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).

### 4.4.1 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

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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 7.7, 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
China (Host Party)	Yes	Yes	Yes	Yes
United Kingdom of Great Britain and Northern Ireland  (Annex 1 Party)	Yes	Yes	n/a	Yes

ERM CVS received the LoAs from the PPs. The authenticity has been confirmed by checking the list of approved projects on the website of the host DNA /15/ and e-mail letter from the Environment Agency of the UK /16/.

	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"> <li>▪ Ratification of the Kyoto Protocol</li> <li>▪ Voluntary Participation</li> <li>▪ Reference to the precise title in the PoA-DD</li> <li>▪ Contribution to sustainable development (host party only)</li> </ul>	<p>The LoAs and MOC should be provided – CAR 1</p> <p>After the LoAs and MoC were provided and reviewed, CAR 1 is closed.</p> <p>The LoA /03//04/ for each PP confirms that:</p> <ul style="list-style-type: none"> <li>• Ratification of the Kyoto Protocol;</li> <li>• Approves the participation of the SinoCarbon Innovation &amp; Investment Co., Ltd. in the PoA as the CME (host LoA only /03/);</li> <li>• States that the project would contribute to sustainable development(host LoA only /03/);</li> <li>• Refers to the PoA using the project title in the PoA-DD;</li> <li>• Refer to the real case CPA using the project title in the real case CPA-DD /02/ (host LoA only /03/);</li> </ul> <p>The host party and Annex 1 country's LoAs /03//04/ were reviewed and confirmed to be in compliance with the requirement of VVS/10/.</p>	CAR 1	OK
5.1.2	Is the information in the LoAs consistent with the other project documentation, including PP names, etc	<p>Please refer to CAR 1</p> <p>After the LoAs and MoC were provided and reviewed, CAR 1 is closed.</p> <p>The information in the LoAs /03//04/ is consistent with the PoA-DD as well as the MoC /05/ and other project documentation.</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>Please refer to CAR 1</p> <p>After the LoAs and MoC were provided and reviewed, CAR 1 is closed.</p> <p>The LoAs /03//04/ were provided by the PP, and reviewed by the validation team. It is stated in the host LoA that the CEM is permitted to transfer to Blue World Carbon Capital PCC no more than 70,000tCO<sub>2</sub>e Certified Emission Reductions (CERs) in total to be generated from the 1<sup>st</sup> CPA (Title: "Datang Qingyun Solar PV Power Project" CPA-001) of the PoA. Other CPAs and the transfer of emission reductions from them should be approved separately.</p> <p>According to Article 37 of the revised version of the Measures for Operation and Management of Clean Development Mechanism Projects in China, issued on 03 Aug 2011 /28/, any trade of carbon credits generated post 2012 of an approved project activity should be approved separately by NDRC. ERM CVS deems this condition will be fully complied with. The LoA is unconditional with respect to the subject matter of VVS paragraph 39:</p> <ul style="list-style-type: none"> <li>a) The Party is a Party to the Kyoto Protocol;</li> <li>b) Participation is voluntary;</li> <li>c) In the case of the host Party, the proposed project activity contributes to the sustainable development of the country;</li> <li>d) It refers to the precise proposed project activity title in the PDD being submitted for registration.</li> </ul>	CAR 1	OK
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"> <li>▪ a statement indicating final LoA has not been received or</li> <li>▪ an updated Validation Report</li> </ul>	<p>Please refer to CAR 1</p> <p>After the LoAs and MoC were provided and reviewed, CAR 1 is closed.</p> <p>The LoAs /03/ /04/ do not reference a specific version of the validation report.</p> <p>CAR 1 is closed. Please refer to Appendix B to this report.</p>	CAR 1	OK

## Conclusion

ERM CVS confirmed that LoAs have been received from all parties involved in the project.

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

- a) Each Party is a Party to the Kyoto Protocol
- b) Participation is voluntary
- c) In the case of the Host Party, the project activity contributes to the sustainable development of the country
- d) The title of the project activity is identical in the LoAs and the PoA-DD and real case CPA-DD.

ERM CVS therefore confirms that the LoAs are in accordance with the VVS.

## 5.2 Authorisation

As per VVS section 7.7 and 7.9, ERM CVS evaluated whether all PPs are listed in a consistent manner in section A.4 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.4 of PoA-DD?	Are contact details given in Annex 1 of PoA-DD?	Does the LoA name the authorised PP?	Is information in the MoC consistent with PoA-DD and LoA?
SinoCarbon Innovation & Investment Co., Ltd.	Yes	Yes	Yes	Yes
Blue World Carbon Capital PCC	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)?	CAR 1 should be closed first.  After the LoAs and MoC were provided and reviewed, CAR 1 is closed.  The PPs are listed in a consistent manner in the PoA-DD and all related project documentation, including the LoAs /03/ /04/ and Modalities of Communication /05/.	CAR-1	OK
	Can it be confirmed that there are no entities other than those approved as PPs included in section A or Annex 1 of the PoA-DD.	CAR 1 should be closed first.  After the LoAs and MoC were provided and reviewed, CAR 1 is closed.  There are no entities other than those included as PPs in section A or Annex 1 of the PoA-DD.	CAR-1	OK
	Does the host party wish to be considered a Project Participant? If so, is this correctly presented in the PoA-DD?	CAR 1 should be closed first.  No. The host party does not wish to be considered a Project Participant /03/, which has been presented in the PoA-DD /01/.	N/A	N/A

## Conclusion

All PPs to the project activity have been authorised 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 LoAs and Modalities of Communication. No entities other than those approved as PPs are included in section A or Annex 1 of the PoA-DD.

## 5.3 Contribution to Sustainable Development

As per VVS section 7.8, ERM CVS evaluated whether the letter(s) of approval by the DNA of the host Party(ies) 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>CAR 1 should be closed first.</p> <p>After the LoA and MoC were provided and reviewed, CAR 1 is closed.</p> <p>Yes. The LoA from the Host Party confirm that the PoA contributes to the sustainable development of that country, which has been checked by the validation team against the LoA /03/.</p>	CAR-1	OK

## 5.4 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 (VVS section 7.9).

	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?	<p>CAR 1 should be closed first.</p> <p>After the LoAs and MoC were provided and reviewed, CAR 1 is closed.</p> <p>In accordance with the VVS paragraph 54, corporate and personal details in the MoC have been confirmed through (c) the MoC was received from the project participant with whom ERM CVS has a contractual relationship, and this entity has also provided written confirmation that all corporate and personal details, including specimen signatures, are valid and accurate, and has confirmed employment status /05/. The official who submitted the MoC statement to ERM CVS and the official who signed the written confirmation regarding the validity of specimen signatures are duly authorized to do so on behalf of the respective project participant. This has been confirmed by the authorization letter from SinoCarbon Innovation &amp; Investment Co., Ltd. to authorize Mr. Wenqiang Wang and the authorization letter from Blue World Carbon Capital PCC to authorize Mr. Nicholas Landor and Ms. Emma Parmiter to sign the MoC on behalf of PPs. /05/.</p> <p>The specimen signatures in the MoC /05/ are checked against the authorization letters issued by the PP /04/ to confirm that the persons are the authorised signatories on behalf of the PP.</p> <p>The validation team confirmed that all corporate and personal details in the MoC, including specimen signatures are correct.</p>	CAR-1	OK
	Has the MoC statement been correctly completed, including: <ul style="list-style-type: none"> <li>Using the latest form?</li> <li>All information, including annex 1, has been correctly provided?</li> <li>Listing all PPs?</li> </ul>	<p>CAR 1 should be closed first.</p> <p>After the LoAs and MoC were provided and reviewed, CAR 1 is closed.</p> <p>Based on review of the MoC /05/, it is confirmed that:</p> <ul style="list-style-type: none"> <li>Yes, the latest form</li> <li>Yes, all information, including Annex 1, has been correctly provided</li> <li>Yes, all PPs are listed</li> </ul>	CAR-1	OK
	Has the MoC been signed by the authorised signatories of	CAR 1 should be closed first.	CAR-1	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/CAR/ CL	Final OK/ NOT OK
	the PP?  Are the signatories consistent with the names given in Annex 1 of the MoC?	After the LoAs and MoC were provided and reviewed, CAR 1 is closed.  Yes, the MoC has been signed by the authorised signatories of the PP  Yes, the signatories are consistent with the names given in Annex 1 of the MoC.		

## Conclusion

ERM CVS has performed due diligence on the MoC statement in accordance with the requirements established in the VVS.  
ERM CVS can confirm that the MoC statement complies with all relevant forms and requirements.

## 6 Validation findings – GSP, PoA-DD 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
- Typo and formatting errors have been revised.

### 6.2 Global stakeholder consultation

As per VVS section 7.5, the GSP-PoA-DDs were made publicly available for a period of 30 days from 31 May 2012 to 29 June 2012 on the UNFCCC website for the Global stakeholder process.

<http://cdm.unfccc.int/ProgrammeOfActivities/Validation/gotoProj?id=KNHXXFXXY9ZRBIH7QE1ECLKDPVNFTN>

No comments were received.

### 6.3 Programme of Activities Design Document (PoA-DD)

As per VVS section 8.4, 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?  <a href="http://cdm.unfccc.int/Reference/POA-DDs_Forms/PoA/index.html">http://cdm.unfccc.int/Reference/POA-DDs_Forms/PoA/index.html</a>	ERM CVS can confirm that the PoA-DD has been checked against the latest 'Guidelines for completing the programme design document form for small-scale CDM programme of activities' (Ver02.0, EB67 Annex30)/08/and the latest template for the small-scale Programme Design Document (version 2.0.0)/08/ available on the CDM website.  The PoA-DD is in compliance with the guidelines except for the CAR/CLs raised in other sections of this report.	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 8.4, 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 typical 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.

#### 6.4.1 Description of the PoA

##### Policy/measure or stated goal of the PoA:

The POA-DD describes the policy/measure of the PoA. This PoA will promote:

- 1) enhancement of development of solar power energy in Shandong province, and;
- 2) motivation of companies/privates to use PV systems for power generation purposes in Shandong province, and;

- 3) creation of new jobs for the local people and increasing of tax revenues, and;
- 4) mitigation of greenhouse gas (GHG) emissions and other negative environmental impact through the replacement of fossil fuel-fired power generation.

This PoA is not implementing under any mandatory policy or regulation of host DNA or local government, which is confirmed by ERM CVS's local knowledge and expertise. It is a voluntary action and initiative of the CME. Participation in the PoA is voluntary; owners of solar power plants will be given a choice whether to participate in the programme or not, and if they are participating, they also may be the implementers of this PoA.

## Description of the PoA:

The purpose of this PoA is to enhance the development of solar power energy in Shandong province. The boundary of the PoA is defined in Shandong province, and all CPAs included into the PoA should apply PV technology and be located within the geographical boundaries of Shandong province, the People's Republic of China. The CME of this PoA is SinoCarbon Innovation & Investment Co., Ltd, which will be responsible for all managing and coordinating work under this PoA.

The electricity generated from activities under this PoA will be supplied to:

- 1) The end users (excess electricity may be supplied to the North China Power Grid) , which would have been supplied with electricity from the NCPG in the absence of the activity, or;
- 2) The NCPG.

The PoA will achieve greenhouse gas (GHG) emission reductions through the displacement of mainly fossil-fuel dominated grid connected power generation.

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

### 6.4.2 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
6.4.2 (a)	<b>Boundary:</b> 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?	Yes. The definition of the boundary for the PoA is correctly stated in PoA. The defined geographical area is within Shandong province in China. The validation team has cross-checked with the geographical description in the website of Shandong province government/06/.	OK	OK
6.4.2 (b)	<b>Policy/measure or stated goal of the PoA:</b> Does the PoA-DD describe the policy/measure or stated goal that the PoA seeks to promote? How was this validated?	Yes. The stated goals were described in the PoA. The validation team have made an on-site interview with the CME IV1 and local authorities IV3 & IV4 to confirm that. The stated goals of the PoA are: <ul style="list-style-type: none"> <li>• Development of renewable energy projects in Shandong province</li> <li>• Enhancement of the motivation of the households and private companies in Shandong province to use solar PV systems for power generation purposes</li> <li>• Creation of new jobs for the people and increase of tax revenues for Shandong province budget; and</li> </ul>	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		<ul style="list-style-type: none"> <li>Mitigation of the negative environmental impact. Combustion of fossil fuels (mostly coal) at power plants and emissions of the harmful substances into the atmosphere, such as flue ash, oxides of sulphur and nitrogen will be reduced due to the implementation of each CPA under this PoA.</li> </ul>		
6.4.2 (c)	<b>Confirmation of voluntary action:</b> Does the POA-DD provide confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity? How was this validated?	Yes. The confirmation of voluntary action was described in the PoA.  There are no mandatory requirements in Shandong province and China requiring the use of solar power as electricity generation. Although the Renewable Energy Law/20/ has been in effect since 01/01/2006, which is aimed at making the plan and industry guidance and promotion measures for the development of all renewable energy(including wind, solar, geothermal and biomass etc.), detailed promotion measures for solar power are not issued yet. This has been confirmed by cross checking through interviews with the local authorities IV3 & IV4 and the CME IV1.	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 provides a clear, accurate and complete understanding of the nature of the proposed CDM PoA.

### 6.4.3 Description of a typical CPA

A typical CPA consists of an identified independent activity in Shandong province which is non-debundled project with a capacity no more than 15 MW and applies the PV power generation technology to provide the electricity to either the NCPG or the end users (excess electricity may be supplied to the North China Power Grid), which would have been supplied with electricity from the NCPG in the absence of the activity.

The description of a typical CPA in the PoA-DD 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
6.4.3 (a)	<b>(i) Description: Typical CPA design</b>  Does the description of the typical CPA in the PoA-DD section A provide a clear, accurate and sufficiently detailed description of the technologies and/or measures to be employed and/or implemented by the CPAs in the PoA?  If relevant, has the description considered applicable provisions for application of selected baseline and monitoring methodology?	No. Due to the lack of information in the generic CPA in the PoA-DD part II, CL 1 is raised. Please refer to Appendix B for details.  The generic CPA-DD does not contain sufficient information to understand a typical CPA, and does not clarify what information related to CPA description will have to be specified at CPA inclusion stage, including : <ul style="list-style-type: none"> <li>List of main technologies involved in a typical CPA</li> <li>List of main equipment and installations in a typical CPA</li> <li>Template for the lifetime of the project equipment</li> <li>Template for monitoring equipment and its location</li> <li>Template for capacities and efficiencies</li> <li>Emissions sources and GHGs involved in the PoA</li> <li>Template for forecasted electricity generation</li> <li>Template for description of technology transfer from Annex I countries (if applicable)</li> <li>Template for geographical coordinates (decimal)</li> </ul> All the information above and the template have been included in Part II section A.1 of the revised PoA-DD. Hence, CL 1 is closed.  These 2 typical CPAs in the PoA-DD provide a clear, accurate and sufficiently detailed description of the technologies and measures to be employed and implemented by the CPAs in the PoA.	CL 1	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
6.4.3 (b)	Is the description in the generic CPA part of the PoA-DD consistent with the validated description in the section A of the PoA DD as discussed above?	<p>Please refer to CL 1</p> <p>All the information above and the template have been included in 2 generic CPAs part II of the revised PoA-DD. Hence, CL 1 is closed.</p> <p>The description in the 2 generic CPAs part II of the revised PoA-DD is consistent with the validated description in the part I of the revised PoA DD.</p>	CL 1	OK

## **Conclusion**

ERM CVS has confirmed that the description in the PoA-DD provides a clear, accurate and complete understanding of the precise nature of the PoA and the technical aspects of its implementation. The description sufficiently covers all relevant elements, is accurate, and clearly states the differences resulting from the PoA 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 the standard for the demonstration of additionality development of eligibility criteria and application of multiple methodologies for programme of activities/14/, ERM CVS evaluated the eligibility criteria contained in section B.2 of the part I of 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?	<p>The eligibility criteria in the PoA-DD defined that the CPA shall either be designed for inclusion of activities located within the Shandong province of China (in case activities are added during the crediting period of the corresponding CPA) or contain activities situated within the boundaries of Shandong (in case activities have been identified before inclusion of the CPA to the PoA). It is different from the demonstration of eligibility in generic CPA-DD, hence CL 2 is raised. Please refer to the CL 2 in the appendix B.</p> <p>The correction has been made to give a clear definition on the geographical boundary of the CPA. All qualified CPAs will be located within Shandong Province, and this description has been kept consistent in PoA-DD and the location in the official map and coordinate's description will be checked and reviewed.</p> <p>Hence, CL 2 is closed.</p> <p>As stated in the eligibility criteria of the section B.2 in the part I of PoA-DD, the CPA must be located within the geographical boundary of Shandong Province. Map of the CPA location and its coordinate's description can be checked.</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently objective based on local and setoral expertise.</p>	CL-2	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 conditions that avoid double counting of emission reductions. Data on each CPA to be included into the PoA, such as unique CPA number, geographic coordinates, installation details, and project owner details, shall be compiled by the CME in accordance with the procedure defined in Section C of the PoA-DD to avoid double accounting.</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently objective base on local and sectoral expertise.</p>	OK	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 sufficiently objective?	<p>The technology defined in the eligibility criteria of PoA-DD is solar electrical technology, which is described in A.6 in PoA-DD as converting solar radiation into electrical by photovoltaic (PV) effect energy.</p> <p>A minor issue was raised to clarify the wording of the technology description, since based on the site visit the validation team understood that only solar PV would be included in the PoA. Please refer to the Minor issue 1 in the appendix B.</p> <p>The validation team confirmed that all description of solar electrical technology has been replaced with photovoltaic (PV) technology to comply with the methodologies AMS-I.D. and AMS-I.F./11/ Hence, minor issue 1 is closed.</p> <p>The range of capacities and relevant standard(s) of testing/certifications are not clearly stated in the eligibility criteria of PoA-DD. Hence CL3 is raised. Please refer to the CL 3 in the appendix B.</p>	<p>Minor issue-1</p> <p>CL-3</p>	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		<p>The capacity of each CPA will be no more than 15MW and apply PV technology.</p> <p>The FSR compiled by a qualified third and its approval, as well as relevant standards, including Code for preparation of photovoltaic power projects feasibility study report (GD003-2011)/26/ and Assessment method for solar energy resources (QX/T89-2008)/27/ could be checked when the CPA is included.</p> <p>Hence, CL 3 is closed.</p> <p>The capacity of each CPA will be no more than 15MW and apply PV power generation technology. The CPA inclusion would be checked against the information in the FSR compiled by a qualified third party and its approval, as well as relevant standards, including but are not limited to "Code for preparation of photovoltaic power projects feasibility study report"(GD003-2011) /26/ and "Assessment method for solar energy resources "(QX/T89-2008) /27/ .</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently objective base on local and sectoral expertise.</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>It is stated that an agreement will be used to prove the starting date of CPA and will be compiled by the CME in accordance with the record keeping system, although the contents of agreement is not stated. Hence, CL 4 is raised. Please refer to the CL 4 in the appendix B.</p> <p>The agreements mentioned in the PoA-DD (version 1.0) /01/ include Equipment Purchase Contract, Construction Contract, Construction Approval Letter and so on. And the revision has been made in the revised PoA-DD /01/.</p> <p>Documental evidence such as Equipment Purchase Contract, Construction Contract, Construction Approval Letter and other documental evidence available will be checked.</p> <p>Hence, CL 4 is closed.</p> <p>The criteria has been updated in the revised PoA-DD and the earliest date at which either the implementation or construction or real action of the CPA will be the start date of each CPA based on the definition of start date in Glossary of CDM terms, Version 07.0 /09/.</p> <p>Documental evidence such as Equipment Purchase Contract, Construction Contract, Construction Approval Letter and other documental evidence available will be checked and reviewed.</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently objective base on local and sectoral expertise.</p>	CL-4	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>It is stated in the eligibility criteria that the qualified CPA should use solar PV technologies and envisage a new installation with capacity smaller or equal to 15MW. It is not clearly stated where the electricity produced by the CPAs will be delivered to. Hence CL 5 is raised. Please refer to the CL 5 in the appendix B.</p> <p>It is stated in the eligibility of the PoA-DD that electricity produced by the CPAs would be supplied to either the end users (excess electricity may be supplied to the North China Power Grid), or the North China Power Grid.</p> <p>The Grid Connection Agreement, Power Purchase Agreement and other documental evidence available will be checked and reviewed when CPA inclusion.</p> <p>Hence, CL 5 is closed.</p>	CL-5	OK



	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		<p>It was stated in the eligibility criteria in the PoA-DD as follows:</p> <ol style="list-style-type: none"> <li>Each CPA will apply the methodology AMS-I.D or AMS-I.F separately. Each CPA will be an independent activity, therefore there are no cross effects.</li> <li>All CPAs shall use solar PV technologies to produce electricity; and envisage a new installation. The solar PV generating equipment of each CPA is not transferred from another activity.</li> <li>The CPA size shall be smaller or equal to 15 MW installed capacity.</li> <li>If the CPA applies AMS-I.D, electricity produced by the CPA will be supplied to the NCPG.</li> <li>If the CPA applies AMS-I.F, electricity produced by the CPA will be supplied to the end users (excess electricity may be supplied to the NCPG), which would have been supplied with electricity from the NCPG in the absence of the CPA.</li> </ol> <p>The applicability criteria of the methodologies are included in the generic CPA and hence must be reported for each CPA. The FSR, FSR Approval, Grid Connection Agreement, Power Purchase Agreement and other documental evidence available will be checked and reviewed to secure the compliance with applicability of methodologies when CPA is included.</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently objective; this is based on local and sectoral expertise.</p>		
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>The demonstration of additionality for the off-grid project is not included in the eligibility criteria. Hence CAR 2 is raised. Please refer to the CAR 2 in the appendix B.</p> <p>The guidelines on the demonstration of additionality of small-scale project activities" (version 09) /13/, reported as Annex 27 to EB 68 and effected from 20 July 2012, state that both grid-connected and off-grid renewable electricity generation technologies using solar Photovoltaic electricity generation are defined as automatically additional for project sizes up to and including the small-scale CDM thresholds (e.g. installed capacity up to 15 MW).</p> <p>The PoA-DD has updated the guidelines from the attachment A of appendix B of the "Simplified modalities and procedures for small-scale CDM project activities" (Version 08) /13/ to the guidelines on the demonstration of additionality of small-scale project activities" (version 09) /13/.</p> <p>The grid-connected or off-grid CPA with installed capacity up to 15 MW, which applies the photovoltaic electricity generation technology, will be additional as per the guidelines on the demonstration of additionality of small-scale project activities" (version 09) /13/.</p> <p>Therefore, the CAR 2 is closed.</p> <p>Since it is defined and guaranteed by the eligibility criteria in the section B.2 in the part I of PoA-DD, all CPAs will employ solar PV technologies to produce electricity and all CPAs will be grid-connected or off-grid and with no more than 15 MW installed capacity. Therefore, all qualified CPAs would be considered as automatically additional.</p> <p>The FSR, FSR Approval, Grid Connection Agreement, Power Purchase Agreement and other documental evidence available will be checked and reviewed to secure the compliance with applicability of methodologies when CPA is included.</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently</p>	CAR-2	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		objective; this is based on local and sectoral expertise.		
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 sufficiently objective?	<p>No. The eligibility criteria requirements related to undertaking local stakeholder consultations and environmental impact analysis were not included in the GSP PoA-DD. Hence, CL 6 is raised. Please refer to the CL 6 in appendix B. The PoA-DD was subsequently revised.</p> <p>Local stakeholder consultations and stakeholder questionnaires would be carried out for collecting the comments from all local stakeholders on CPA level.</p> <p>Each CPA will be required to complete an environmental impact analysis (EIA), which includes assessment of impact on air, water, acoustic and solid environments.</p> <p>Hence, CL 6 is closed.</p> <p>The questionnaire of stakeholders survey and minutes of the local stakeholder consultation meeting will be checked to confirm whether the local stakeholder consultation is appropriate. And EIA report by the independent third party and EIA approval will be checked to confirm that the project is in accordance with the requirements of environmental impact analysis of the host country.</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently objective based on local and sectoral expertise.</p>	CL-6	OK
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?	<p>Yes. The criteria include checking whether a CPA satisfied all the requirements stipulated by the CME with regard to target group and the distribution mechanisms. Electricity produced by each CPA will be supplied to:</p> <ul style="list-style-type: none"> <li>the end users (excess electricity may be supplied to the NCPG), which would have been supplied with electricity from the NCPG in the absence of the activity; or</li> <li>The NCPG</li> </ul> <p>All the CPAs will be either grid-connected or off-grid. Specific distribution mechanisms are not applicable for this PoA.</p> <p>The criterion is sufficiently objective and verifiable based on the description in eligibility criteria of the section B.2 in the part I of PoA-DD /01/.</p>	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?	There is no sampling applied in this PoA and therefore it is not applicable	N/A	N/A
7.1.10	Do the criteria include, where applicable, conditions that ensure that the CPA in aggregate meets the small-scale or micro-scale	Yes. It is stated in the PoA-DD /01/ that the qualified CPA should meet the small-scale (output capacity over 5MW but up to 15 MW) or micro-scale (output capacity up to 5MW) threshold criteria, which is defined in the Glossary of CDM terms (version 7.0)/09/, and must remain within those thresholds throughout the	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	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>crediting period of the CPA.</p> <p>The approved FSR/PDR could be checked to ensure that the CPA in aggregate meets the small-scale or micro-scale threshold criteria. Furthermore, the operation and maintenance log, name plate of turbines and generators or other available documents could be checked on-site to ensure the CPA remains within those thresholds throughout the crediting period of the CPA.</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently objective; this is based on local and sectoral expertise.</p>		
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 relevant criteria verifiable and sufficiently objective?	<p>The criteria include checking whether a CPA satisfied all the requirements stipulated by the CME with regard to the debundling check. However the procedures and conditions in the eligibility criteria and relevant descriptions in section C of PoA-DD are not in line with the guidelines on assessment on debundling for SSC project activities (Version 03) /17/. Hence the CAR 3 is raised.</p> <p>The procedures and conditions of the debundling check are revised in the eligibility criteria and section C of the updated PoA-DD. ERM CVS checked the procedures and conditions and confirmed its consistency with the guidelines on assessment on debundling for SSC project activities (version 03) /17/.</p> <p>Hence, CAR 3 is closed.</p> <p>According to the procedures described in the section C of PoA-DD, the CME must prove that there is no registered small-scale CDM project activity or an application to register another small-scale CDM project activity</p> <ul style="list-style-type: none"> <li>Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same technology/measure, and;</li> <li>The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point.</li> </ul> <p>The declaration from CPA implementer on non-debundling, approved FSR/PDR and available information on all registered activities on the CDM website could be checked and reviewed at the time of inclusion.</p> <p>The validation team confirmed that relevant criteria are verifiable and sufficiently objective; this is based on local and sectoral expertise.</p>	CAR-3	OK
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>The criteria include the condition to provide an affirmation that funding from Annex I parties, however the compliance and procedure making the criteria verifiable and objective were not stated in the GSP PoA-DD. Hence, CL 7 is raised. Please refer to CL 7 in appendix B.</p> <p>The loan contract or other public documents demonstrating no funding from Annex I parties will be checked and reviewed. The validation team confirmed that criteria are verifiable and sufficiently objective based on local and sectoral expertise.</p> <p>Hence CL 7 is closed.</p>	CL-7	OK
7.1.13	Does the CME have the competencies to check the features of potential CPAs and ensure that each CPA	<p>Operational and management plan covering all required elements as per the Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, Version 02.1</p>	CL-10	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	meets all requirements and eligibility criteria before inclusion in the registered PoA?	<p>/14/ has not been provided. Please refer to CL 10</p> <p>The operational and management plan covering all required elements as per the Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, Version 02.1 /14/ has been added in section C of the revised PoA-DD.</p> <p>Hence, CL 10 is closed.</p> <p>The CME is a coordinating and managing entity of this PoA. The CME has the right to claim CERs generated as a result of the implementation of independent CPAs from the owners of the solar power plants and distribute them.</p> <p>ERM CVS checked the definition of roles and responsibilities of personnel, procedures to avoid double accounting, record and documentation control process, and procedures for technical review, and confirmed that the CME has the competencies to check CPA features of the project and confirmed the controls in place.</p>		
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>Pending on the CL 2,3,4,5,6,7,10 and CAR 2,3.</p> <p>CL 2,3,4,5,6,7,10 and CAR 2,3 are closed.</p> <p>The validation team confirmed the set of eligibility criteria is sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA, and all eligibility criteria are consistent with relevant guidelines and other documents of the CDM-EB.</p>	<p>CL-2</p> <p>CL-3</p> <p>CL-4</p> <p>CL-5</p> <p>CL-6</p> <p>CL-7</p> <p>CL-10</p> <p>CAR-2</p> <p>CAR-3</p>	OK

## **Conclusion:**

ERM CVS can confirm that the CME has developed eligibility criteria for inclusion of a CPA under the PoA and has included these criteria in the PoA design document and demonstrated their usability to assess the inclusion of CPAs. The PoA-DD provides a detailed description of the eligibility criteria for inclusion of a project activity as a CPA under the PoA, which includes criteria for demonstration of additionality of the CPA, and the type and/or extent of information (e.g. criteria, indicators, variables, parameters or measurements) that shall be provided by each CPA in order to ensure its eligibility. The eligibility criteria are verifiable, and are sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA. ERM CVS has assessed the specified eligibility criteria and can conclude that the criteria are sufficient to ensure that all CPAs would comply with the CDM requirements applicable to 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 8.4, 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(ies) applied	AMS-I.D.: Grid connected renewable electricity generation, Version 17, EB 61; AMS-I.F.: Renewable electricity generation for captive use and mini-grid, Version 02, EB 61
Methodological tools applied as required by the methodology(ies)	Tool to calculate the emission factor for an electricity system, Version 02.2.1

	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?  Is the methodology within their period of validity?	CL 8 was raised because the PP should give further clarification on whether the CPAs would apply the methodologies AMS-I.D and AMS-I.F separately or combined. Furthermore if the methodologies are combined, the PP should explain and justify whether cross effects between the methodologies applied exist.  The PP clarified that the methodologies would not be combined. Each CPA will apply either AMS-1.D or AMS-1.F. As specified in eligibility criteria of section B.2 in the part I of the PoA-DD, all qualified CPAs will supply electricity to either the end users (excess electricity may be supplied to the North China Power Grid), which would have been supplied with electricity from the NCPG in the absence of the activity, or the NCPG. And each CPA will be an independent activity. Therefore, the eligibility criteria in the revised PoA-DD would guarantee no cross effects exist as each qualified CPA will apply the methodology AMS-I.D or AMS-I.F separately.  The validation team confirmed that the criteria are verifiable and sufficiently objective; this is based on local and sectoral expertise.  Hence, CL 8 is closed.  ERM CVS has determined that the methodologies are correctly quoted and applied 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	CL-8	OK
	Are all the required tools applied and fully referenced in the PoA-DD and generic CPA-DD?  Are the version numbers applicable at the time of validation?	Yes. ERM CVS has determined that the methodological tools are correctly quoted 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
	If applicable, has any specific guidance provided by the CDM EB relating to the applied methodology been considered?	Yes The following EB guidance have been considered:  Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, version 02.1, EB 70 Annex 5 /14/	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
		Guidelines on the demonstration of additionality of small-scale project activities, Version 09 /13/  Tool to calculate the emission factor for an electricity system, Version 02.2.1, EB 63 /12/		

## Conclusion

The applied methodologies 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 typical CPA

As per VVS section 8.4, ERM CVS evaluated whether the selected baseline and monitoring methodologies applied in the proposed PoA (generic CPA part) are applicable to the typical CPA described in the PoA-DD. This evaluation was based on a review of the PoA-DD and associated documentation, interviews with the PoA developer and with the implementer of the first CPA, and a site 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 typical 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/C L	Final OK/ Not OK
8.2.1	<p>For AMS-I.D, Version 17</p> <p>This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.</p> <p>Illustration of respective situations under which each of the methodology (i.e. AMS-I.D, AMS-I.F and AMS-I.A) applies is included in Table 2.</p>	Yes	Yes	<p>The applicability condition is properly explained and clearly justified in the PoA-DD.</p> <p>It is described in the eligibility criteria in the PoA-DD that all CPAs to be included in the PoA would provide electricity to either the end users (excess electricity may be supplied to the North China Power Grid), which would have been supplied with electricity from the NCPG in the absence of the activity, or the NCPG.</p> <p>For the CPAs supplying electricity to the NCPG, methodology AMS-I.D. is applicable.</p> <p>This will be ensured by the eligibility criteria in section B.2 in the part I of PoA-DD.</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/C L	Final OK/ Not OK
	<p>For AMS-I.D, Version 17</p> <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	All CPAs to be included in the PoA would use new installation of solar PV technology at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant). This will be ensured by the eligibility criteria in section B.2 in the part I of PoA-DD.	OK	OK
	<p>For AMS-I.D, Version 17</p> <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"> <li>• The project activity is implemented in an existing reservoir with no change in the volume of reservoir;</li> <li>• The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m<sup>2</sup>;</li> <li>• 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<sup>2</sup>.</li> </ul>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology in the eligibility criteria in section B.2 in the part I of PoA-DD.	N/A	N/A
	<p>For AMS-I.D, Version 17</p> <p>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.</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology individually in PoA-DD.	N/A	N/A
	<p>For AMS-I.D, Version 17</p> <p>Combined heat and power (co-generation) systems are not eligible under this category.</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology individually in PoA-DD .	N/A	N/A
	<p>1.6 AMS-I.D, Version 17</p> <p>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<sup>9</sup> from the existing units.</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to be Greenfield projects in the eligibility criteria in section B.2 in the part I of PoA-DD.	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/C L	Final OK/ Not OK
	<p>For AMS-I.D, Version 17</p> <p>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.</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to be Greenfield projects in the eligibility criteria in section B.2 in the part I of PoA-DD.	N/A	N/A
	<p>For AMS-I.D, Version 17</p> <p>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.</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology individually in PoA-DD.	N/A	N/A
	<p>For AMS-I.D, Version 17</p> <p>In the specific case of biomass project activities the determination of leakage shall be done following the general guidance for leakage in small-scale biomass project activities (attachment C of Appendix B 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>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology individually in PoA-DD.	N/A	N/A
	<p>For AMS-I.D, Version 17</p> <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. 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>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to be Greenfield projects and envisage new installations in the eligibility criteria in section B.2 in the part I of PoA-DD.	N/A	N/A
	<p>For AMS-I.F, Version 2.0</p> <p>This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to user(s). The project activity will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit i.e. in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:</p> <p>(a) A national or a regional grid (grid hereafter);</p> <p>(b) Fossil fuel fired captive power plant;</p>	Yes	Yes	<p>The applicability conditions are properly explained and clearly justified in the PoA-DD.</p> <p>It is described in the eligibility criteria in PoA-DD that all CPAs to be included in the PoA would provide electricity to either the end users (excess electricity may be supplied to the North China Power Grid), or the NCPG.</p> <p>For the CPAs supplying electricity to the end users (excess electricity may be</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/C L	Final OK/ Not OK
	(c) A carbon intensive mini-grid.			<p>supplied to the North China Power Grid), which would have been supplied with electricity from the NCPG in the absence of the activity, methodology AMS-I.F. is applicable.</p> <p>It is also confirmed by site visit and interviews /IV1/ with the CME and local authorities.</p>		
	<p>For AMS-I.F, Version 2.0</p> <p>For the purpose of this methodology, a mini-grid is defined as small-scale power system with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all generators connected to the mini-grid is equal to or no more than 15 MW) which is not connected to a national or a regional grid.</p>	N/A	N/A	<p>For the CPAs applying the AMS-I.F., electricity will be supplied to the end users (excess electricity may be supplied to the NCPG), which would have been supplied with electricity from the NCPG in the absence of the activity.</p> <p>Thus, mini-grid is not applicable for this PoA.</p> <p>It has been demonstrated in the eligibility criteria in section B.2 in the part I of PoA-DD.</p>	N/A	N/A
	<p>For AMS-I.F, Version 2.0</p> <p>Illustration of respective situations under which each of the methodology (i.e. AMS-I.D, AMS-I.F and AMS-I.A) applies is included in Table 2.</p>	Yes	Yes	<p>The applicability condition is properly explained and clearly justified in the PoA-DD.</p> <p>It is described in the eligibility criteria in the PoA-DD that all CPAs to be included in the PoA would provide electricity to either the end users (excess electricity may be supplied to the North China Power Grid), which would have been supplied with electricity from the NCPG in the absence of the activity, or the NCPG.</p> <p>This will be ensured by the eligibility criteria in section B.2 in the part I of PoA-DD.</p>	OK	OK
	<p>For AMS-I.F, Version 2.0</p> <p>Hydro power plants with reservoirs<sup>6</sup> that satisfy at least one of the following conditions are eligible to apply this</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology in the eligibility criteria in	N/A	N/A

	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/C L	Final OK/ Not OK
	<p>methodology:</p> <ul style="list-style-type: none"> <li>The project activity is implemented in an existing reservoir with no change in the volume of reservoir;</li> <li>The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m<sup>2</sup>;</li> <li>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<sup>2</sup>.</li> </ul>			section B.2 in the part I of PoA-DD /01/.		
	<p>For AMS-I.F, Version 2.0</p> <p>For biomass power plants, no other biomass other than renewable biomass is to be used in the project plant.</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology in the eligibility criteria in section B.2 in the part I of PoA-DD.	N/A	N/A
	<p>For AMS-I.F, Version 2.0</p> <p>This methodology is applicable for 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	All CPAs to be included in the PoA are Installation 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 will be ensured by the eligibility criteria in section B.2 in the part I of PoA-DD.	OK	OK
	<p>For AMS-I.F, Version 2.0</p> <p>In the case of project activities that involve the capacity 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.</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to be Greenfield projects in the eligibility criteria in section B.2 in the part I of PoA-DD.	N/A	N/A
	<p>For AMS-I.F, Version 2.0</p> <p>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.</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to be Greenfield projects in the eligibility criteria in section B.2 in the part I of PoA-DD.	N/A	N/A
	<p>For AMS-I.F, Version 2.0</p> <p>If the unit added 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 unit added co-fires</p>	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to be Greenfield projects and apply the photovoltaic electricity generation technology in	N/A	N/A

	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/C L	Final OK/ Not OK
	fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.			the eligibility criteria in section B.2 in the part I of PoA-DD.		
	For AMS-I.F, Version 2.0  Combined heat and power (co-generation) systems are not eligible under this category.	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology individually in PoA-DD.	N/A	N/A
	2.9 AMS-I.F, Version 2.0  If electricity and/or steam/heat produced by the project activity is delivered to a third party i.e. another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered that ensures that there is no double counting of emission reductions.	Yes	Yes	It is stated by the eligibility criteria in PoA-DD that in the case where electricity produced by the CPA is delivered to a third party, a contract between the supplier and consumer(s) of the energy will be signed. This can be verified against the contract itself, and therefore is sufficiently verifiable and objective.	OK	OK
	For AMS-I.F, Version 2.0  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.	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to apply the photovoltaic electricity generation technology individually in PoA-DD.	N/A	N/A
	For AMS-I.F, Version 2.0  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. 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.	N/A	N/A	Not applicable. All CPAs to be included in the PoA are defined to be Greenfield projects and envisage new installations in the eligibility criteria in section B.2 in the part I of PoA-DD.	N/A	N/A

## **Conclusion**

The applied methodologies AMS-I.D and AMS-I.F and associated tools are fully applicable to the typical CPA respectively and are correctly applied in the PoA-DD. No greenhouse gas emissions sources were identified within the proposed typical 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 methodologies. The specific CPA will choose to apply either AMS-I.D or AMS-I.F respectively depending on providing electricity to either the end users (excess electricity may be supplied to the North China Power Grid), which would have been supplied with electricity from the NCPG in the absence of the activity, or the NCPG. Therefore no cross effects exist for the guarantee of the eligibility criteria in section B.2 in the part I of PoA-DD.

## 8.3 CPA Boundary

As per VVS section 8.4, 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 typical CPA for the purpose of calculating project and baseline emissions for the typical CPA.

### 8.3.1 Emission sources

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

	Source	Gas	Included in CPA-DD?	Is inclusion / exclusion justified in the CPA-DD?	How has this been validated?
Baseline emissions	CO <sub>2</sub> emissions from electricity generation in fossil fuel fired power plants that are displaced due to the programme	CO <sub>2</sub>	Yes	Yes	This is main emission source in baseline as per AMS-I.D. and AMS-I.F./11/
		CH <sub>4</sub>	No	Yes	This is minor emission source in baseline as per AMS-I.D and AMS-I.F. /11/
		N <sub>2</sub> O	No	Yes	This is minor emission source in baseline as per AMS-I.D and AMS-I.F. /11/
Project emissions	CPAs	CO <sub>2</sub>	No	Yes	DOE confirms that as per the methodologies AMS-I.D and AMS-I.F, CPAs emission is regarded as zero as CPAs are newly-build renewable energy (PV Power) projects, as confirmed by reviewing eligibility criteria in PoA-DD.
		CH <sub>4</sub>	No	Yes	
		N <sub>2</sub> O	No	Yes	
Leakage emissions	No leakage	N/A	N/A	N/A	The CPAs to be included in PoA are newly installed PV power project, without any transfer of energy generating equipment from another activity, hence, no leakage need to be considered as per AMS-I.D and AMS-I.F. /11/.

	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 emissions as set out in the applied baseline methodology  Is this information also stated consistently in the generic CPA-DD?	Yes. ERM CVS evaluated whether the sources of GHG emission set out in the applied methodology were included in the CPA boundary and, where the methodologies allow CME/CPA operator to choose whether a source or gas is to be included within the CPA's boundary, this has been clearly justified in the PoA-DD. The validation was based on methodologies AMS-I.D (Version 17)/11/ and AMS-I.F.(Version 02)/11/.	OK	OK

## Conclusion

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

## 8.3.2 Emission sources not addressed by the methodology

ERM CVS evaluated whether there are any emission sources that will be affected by the typical 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 typical 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 procedures.	No emissions sources other than those addressed by the methodologies AMS-I.D. and AMS-I.F. were identified.	OK	OK

## 8.4 Baseline identification

As per VVS section 7.12, 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 paragraph 115, no alternative analysis is required if the approved methodology that is selected by the proposed CDM PoA prescribes the baseline scenario. Furthermore, the AMS-I.D. (Version 17) defines that the baseline scenario is that 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 AMS-I.F. (Version 2.0) defines that baseline emissions for other systems which are not mini-grid system, are the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor.

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 typical CPA, a scenario that represents the anthropogenic emissions by sources of GHG that would occur in the absence of the PoA?	<p>Yes. The PoA-DD/01/ identifies the baseline scenario of the CPAs which supply the electricity to the NCPG as per the methodology AMS-I.D.</p> <p>However, for the CPAs that involve small-scale methodology AMS-I.F., the explanation why the baseline scenario based on a mini-grid system has been excluded is not provided in the PoA-DD. Hence, CL 9 is raised.</p> <p>As per the definition in methodology AMS-I.F., the mini-grid is defined as small-scale power system with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all generators connected to the mini-grid is equal to or no more than 15 MW) which is not connected to a national or a regional grid.</p> <p>For the qualified CPA which supply the electricity to the end users (excess electricity may be supplied to the North China Power Grid), the end user is defined as the user would have been supplied electricity from the NCPG in the eligibility criteria of PoA-DD. Therefore, the scenario based on the mini-grid system is excluded and CL 9 is closed.</p> <p>The PoA-DD clearly identify the baseline for a PoA and typical CPAs which supply the electricity to either the end users (excess electricity to the NCPG) or the NCPG, a scenario that represents the anthropogenic emissions by sources of GHG that would occur in the absence of the PoA.</p>	CL-9	OK
	Have the procedures/ steps to identify the most	For CPAs applying AMS-I.D., no alternative analysis is required, because the methodology AMS-I.D. (Version 17) defines that the baseline scenario as the	CL-9	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	reasonable baseline scenario, as required by the methodology(ies) and applicable tools, been documented clearly in the PoA-DD for a typical CPA?	<p>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.</p> <p>For CPAs applying AMS-I.F. please refer to CL 9.</p> <p>For CPAs applying AMS-I.F., the end user is defined as the user that would have been supplied electricity from the NCPG in the eligibility criteria of PoA-DD. Therefore the baseline scenario is the product of the amount electricity produced by the renewable generating unit multiplied by the emission factor of the electricity grid, as per the methodology AMS-I.F.</p> <p>Hence, CL 9 is closed.</p> <p>ERM CVS evaluated that all the procedures and steps to identify the baseline, as required by the methodologies AMS-I.D.and I.F., have been documented clearly in the PoA-DD for typical CPAs.</p>		

## Conclusion

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

- All the assumptions and data used by the PPs in establishing the baseline scenario are listed in the PoA-DD, including their references and sources;
- All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA-DD;
- Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- 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 PoA.

### **8.5 Algorithms and/or formulae used to determine emission reductions**

As per VVS section 8.4, 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 typical CPA and other evidence provided) and that the correct equations and parameters have been used, in accordance with the methodology selected.

#### *8.5.1 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)
$EF_{CO_2,grid,y}$	CO <sub>2</sub> emission factor of the grid electricity in year y  both AMS-I.D. and AMS-I.F.	Yes	Yes	Yes	Sourced from Notification on Determining Baseline Emission Factors for China Power Grids by NDRC /22/.  Since this parameter would be updated periodically, for conservativeness, the value applied of this parameter will be determined at the CPA level.  The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.	N/A
$EF_{CO_2,i,y}$ and $EF_{CO_2,m,i,y}$	CO <sub>2</sub> emission factor of fossil fuel type i used in power unit m in year y  both AMS-I.D. and AMS-I.F.	Yes	Yes	Yes	Sourced from IPCC default values at the lower limit of the uncertainty at a 95% confidence interval /19/.  Since this parameter would be updated periodically, for conservativeness, the value applied of this parameter will be determined at the CPA level.  The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.	N/A
$NCV_i$	Net caloric value of fossil fuel type i consumed in the project electricity system in year y  both AMS-I.D. and AMS-I.F.	Yes	Yes	Yes	Sourced from China Energy Statistical Yearbook /18/.  Since this parameter would be updated periodically, for conservativeness, the value applied of this parameter will be determined at the	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)
					CPA level.  The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.	
$FC_{i,y}$	the amount of the fossil fuel $i$ consumed in the project electricity system in year $y$  (Mass or volume unit)  both AMS-I.D. and AMS-I.F.	Yes	Yes	Yes	Sourced from China Energy Statistic Yearbook /18/.  Since this parameter would be updated periodically, for conservativeness, the value applied of this parameter will be determined at the CPA level.  The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.	N/A
$EG_{grid,y}$ and $EG_{m,y}$	Electricity supplied to power grid by included sources in year $y$  both AMS-I.D. and AMS-I.F.	Yes	Yes	Yes	Sourced from China Electric Power Yearbook /18/.  Since this parameter would be updated periodically, for conservativeness, the value applied of this parameter will be determined at the CPA level.  The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.	N/A
Efficiency of the best technology commercially*	Best commercial available efficiency of coal, gas, oil fuel power plant  both AMS-I.D. and AMS-I.F.	Yes	N/A	Yes	Sourced from Notification on Determining Baseline Emission Factors for China Power Grids by NDRC /22/.  Since this parameter would be updated	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)
					periodically, for conservativeness, the value applied of this parameter will be determined at the CPA level.  The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.	
<i>Import Electricity from NEPG to NCPG*</i>	Net import electricity from NEPG to the NCPG  both AMS-I.D. and AMS-I.F.	Yes	N/A	Yes	Sourced from China Electric Power Yearbook /18/.  Since this parameter would be updated periodically, for conservativeness, the value applied of this parameter will be determined at the CPA level.  The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.	N/A
<i>Import Electricity from CCPG to NCPG*</i>	Net import electricity from CCPG to the NCPG  both AMS-I.D. and AMS-I.F.	Yes	N/A	Yes	Sourced from China Electric Power Yearbook /18/.  Since this parameter would be updated periodically, for conservativeness, the value applied of this parameter will be determined at the CPA level.  The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.	N/A
<i>Installed Capacity*</i>	Installed capacity of the NCPG in year y.  both AMS-I.D. and AMS-	Yes	N/A	Yes	Sourced from China Electric Power Yearbook /18/.	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)
	I.F.				<p>Since this parameter would be updated periodically, for conservativeness, the value applied of this parameter will be determined at the CPA level.</p> <p>The validation team confirms that is reasonable and appropriate; this is based on local and sectoral expertise.</p>	

\* Above parameters are from Notification on Determining Baseline Emission Factors for China Power Grids by NDRC /22/, China Electric Power Yearbook /18/ and China Energy Statistical Yearbook /18/. They are not required by the methodology or the tools applied, but are required for the calculation of the grid emissions factor for China in line with the EB guidance on the application of approved methodology AM0005 now consolidated into ACM0002 that can be applied for the purpose of estimating the build margin emission factor for each fuel type, and are updated periodically.

Other parameters including Quantity of biomass consumed in year y, Moisture content of the biomass (wet basis), Net calorific value of biomass type k and  $\sigma_{\text{historical}}$  are not relevant to this project activity because these type CPAs are Greenfield PV power projects.

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
8.5.1	Have the parameters required by the methodology / tools been correctly described in the PoA-DD?  Where the methodology provides for selection between different options for data and parameters; is the choice of data and parameters justified?	<p>Since all parameters to determine the emission reductions would be updated periodically, these parameters are listed and described to be determined at CPA level.</p> <p>The parameters required by the methodologies/tools and specification of grid emission factor calculations in China have been correctly described in the PoA-DD and described to be determined at CPA level for conservativeness.</p> <p>The validation team confirmed that the choice of data and parameters was reasonable and appropriate based on local and sectoral expertise.</p> <p>For further details please see the table above.</p>	OK	OK
	Have the parameters required by the methodology / tools been correctly described in the generic CPA-DD?	<p>The parameters required by the methodologies/tools and specification of grid emission factor calculations in China have been correctly described in the PoA-DD and described to be determined at CPA level for conservativeness.</p> <p>For further details please see the table above.</p>	OK	OK

## 8.5.2 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

- For CPAs applied AMS-I.F.:

According to the methodology AMS-I.F., for the CPAs which supply the electricity to end users (excess electricity may be supplied to the North China Power Grid) which would have been supplied with electricity from the NCPG in the absence of the activity, the emission factor of a grid shall be calculated as the national or a regional grid (hereafter 'the grid') as per the procedures provided in AMS-I.D. /11/ and the Tool to calculate the emission factor for an electricity system, Version 02.2.1 /12/

- For CPAs applied AMS-I.D.:

According to the methodology AMS-I.D.(Version 17) –“Grid connected renewable electricity generation”

$$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$$

Where

$BE_y$  Baseline Emissions in year y (t CO<sub>2</sub>)

$EG_{BL,y}$  Quantity of net electricity supplied to the grid as a result of the implementation of CPA in year y (MWh)

$EF_{CO_2,grid,y}$  CO<sub>2</sub> emission factor of the grid in year y (t CO<sub>2</sub>/MWh)

## Grid emissions factor:

According to the requirement of AMS-I.D./11/, the proposed CPAs applied the steps of the Tool to calculate the emission factor for an electricity system /12/ to calculate the grid emission factor. The grid emission factor is calculated as a combined margin (CM) which is made up of the combination of operating margin (OM) and build margin (BM).

The DNA of the host country has published a delineation of the project electricity system and connected electricity systems /22/, and these delineations are used in the PoA as required by the Tool to calculate the emission factor for an electricity system /12/. Since the parameters to determine the emission reductions would be updated periodically, the detailed calculation will be checked against the delineation published by China DNA /22/ when validated for specific CPAs

The emission factor of the grid is determined for each CPA ex-ante for the first 7 years crediting period following the tool to calculate the emission factor for an electricity system /12/. In accordance with the tool, the weights of the operating margin and the build margin are 0.75:0.25 for solar PV projects.

## Operating Margin (OM):

The CME has elected to determine the grid emissions factor at the CPA level, and therefore the choice of option selected and detailed calculation should be made when specific CPAs are validated.

## Build Margin (BM):

The CME has elected to determine the grid emissions factor at the CPA level, and therefore the choice of option selected and detailed calculation should be made when specific CPAs are validated.

## Combined Margin (CM):

The combined margin emissions factor both for AMS-I.F. and AMS-I.D./11/ is calculated as  $EF_{CO_2,grid,y} = 0.75 * EF_{grid,OM,y} + 0.25 * EF_{grid,BM,y}$ . The value will be determined at the CPA level.

## Project emissions

According to AMS-I.F.(Version 2.0) and AMS-I.D.(Version 17) /11/, no emissions need to be taken into account for CPAs applying solar PV technology.

Therefore:  $PE_y = 0$

## Leakage

According to AMS-I.F.(Version 2.0) and AMS-I.D.(Version 17) /11/, no leakage needs to be taken into account on CPAs which are all Greenfield projects envisage new installations and without any power generating equipment transfer.

Therefore:  $LE_y = 0$

	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>For the CPAs that involve small-scale methodology AMS-I.F, the explanation why the baseline scenario based on a mini-grid system has been excluded is not provided in the PoA-DD. Hence, CL 9 was raised. Please refer to CL 9 in appendix B.</p> <p>It is stated and guaranteed in the eligibility criteria that the qualified CPA supply the electricity to either the end users (excess electricity may be supplied to the North China Power Grid) which would have been supplied with electricity from the NCPG in the absence of the activity, or the NCPG.</p> <p>Therefore, the scenario based on the mini-grid system is excluded and CL 9 is closed.</p> <p>The validation team has reviewed the PoA-DD against the methodology AMS-I.D. and AMS-I.F./11/.</p> <p>Since the parameters to determine the emission reductions would be updated periodically, the detailed calculation will be made when validated for specific CPAs. The PP has correctly applied the procedures for the calculation of baseline emissions and emission reductions as required by the methodology/tools.</p>	GL-9	OK
	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 validation team has reviewed the PoA-DD against the applied methodology.</p> <p>Since the parameters to determine the emission reductions would be updated periodically, the options selected and detailed calculation will be made at the CPA level and validated for specific CPAs.</p> <p>The validation team confirmed that was reasonable and appropriate based on the PoA rules and guidelines in the CDM.</p>	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?	<p>The validation team has reviewed the PoA-DD against the applied methodologies.</p> <p>Since the parameters to determine the emission reductions would be updated periodically, the options selected and detailed calculations will be made at the CPA level and validated for specific CPAs.</p> <p>The validation team confirmed that was reasonable and appropriate based on the PoA rules and guidelines in the CDM.</p>	OK	OK
	If applicable, are detailed calculations provided in a traceable spreadsheet showing relevant information?	<p>N/A</p> <p>Since the parameters to determine the emission reductions would be updated periodically, the options selected and detailed calculation will be made at the CPA level and validated for specific CPAs.</p> <p>The validation team confirmed that was reasonable and appropriate based on the PoA rules and guidelines of the CDM.</p>	OK	OK

## Conclusion

The PoA-DD correctly applies the methodology and appropriate tools to provide a framework for calculating the emission reductions of a typical CPA. Since the parameters to determine the emission reductions would be updated periodically, for conservativeness, the options selected and detailed calculation will be made when validation for specific CPAs occur. The validation team confirmed that was reasonable and appropriate based on their local and sectoral expertise.

## 9 Validation findings – Additionality

As per the VVS sections 8.4 and the 'Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities /14/', 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 /14'". 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 /14'', 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'/13/. PoAs that will include one or more small-scale projects as CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A of Appendix B of the Simplified modalities and procedures for small-scale CDM project activities (guidelines on additionality for small scale 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 relevant 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 VVS, Version 3.0 /10/, the assessment of prior consideration of the CDM for the PoA could apply the provisions of paragraph 194 & 107 in VVS, Version 3.0.

The start date of the PoA is determined as the date of the GSP, i.e. 31 May 2012, which is after 02 August 2008. Since the PoA and any components had not started when the PoA-DD was published for GSP on 31 May 2012, the PP did not need to submit notifications about CDM prior consideration.

Based on site-visiting and eligibility criteria set in the PoA-DD, ERM CVS accepted that the start date for this PoA is 31 May 2012 and all CPAs would be on or after the start date of this PoA. ERM CVS also confirmed that the CDM was appropriately considered in the decision to implement the PoA as per the requirement of VVS, Version 3.0 /10/.

### 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	Has the CME demonstrated that in the absence of the CDM either:  (i) the proposed voluntary measure would not be	As per the 'Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities'/14/, additionality of a PoA must be demonstrated by establishing that in the absence of CDM, none of the implemented CPAs would occur.  It is stated clearly in the PoA-DD that the PoA is a voluntary action and no CPA	OK	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not OK
	<p>implemented, or</p> <p>(ii) the mandatory policy/regulation would be systematically not enforced and that non-compliance with those requirements is widespread in the country/region, or</p> <p>(iii) that the PoA will lead to a greater level of enforcement of the existing mandatory policy /regulation.</p>	<p>will be implemented in the absence of the PoA.</p> <p>There are no mandatory requirements in China requiring the use of PV power for electricity generation. Although the Renewable Energy Law /20/ has been in effect since 01 January 2006, it is aimed at making the plan and industry guidance and promotion measures for the development of all renewable energy(including hydro, wind, solar, geothermal and biomass etc.) and no special measures mandating or incentivising PV power are included. This has been confirmed by reviewing the document /20/ and cross checking through interviews with the local authorities /IV3/ &amp; /IV4/ and the CME /IV1/.</p> <p>Therefore, there is no requirement to develop the programme or to develop solar PV systems or projects in Shandong Province.</p> <p>The validation team checked above description against the host country LoA/03/ and found consistency.</p>		

### 9.3 Identification of alternatives

- If a CPA is a greenfield solar PV generation project, and the electricity generated by the CPA will be supplied to the NCPG the AMS-I.D would be applied.

The approved methodology AMS-I.D. prescribes the baseline scenario and no further analysis is required. The methodology defines the baseline 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.

- For the methodology AMS-I.F.

The approved methodology AMS-I.F. prescribes the baseline scenario for 2 kinds of system respectively.

(1). Baseline for mini-grid system.

The methodology defines the baseline as the annual electricity generated by the renewable energy unit times an emission factor for a modern diesel generating unit of the relevant capacity operating at optimal load.

(2). Baseline for other systems.

The methodology defines the baseline as the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor.

It is stated in the PoA-DD that qualified CPA to apply the methodology AMS-I.F. is a greenfield solar PV generation project, and the electricity generated by the CPA will be supplied to the end user (excess electricity may be supplied to the NCPG), which would have been supplied with electricity from the NCPG in the absence of the CPA.

As per the definition in methodology AMS-I.F., the mini-grid is defined as small-scale power system with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all generators connected to the mini-grid is equal to or no more than 15 MW) which is not connected to a national or a regional grid. Therefore, the scenario based on the mini-grid system is excluded.

For the CPA which is a greenfield solar PV generation project supplied electricity to the end user (excess electricity may be supplied to the NCPG), and the end user have been supplied with electricity from the NCPG in the absence of the CPA, the approved methodology AMS-I.F. would be applied.

As per the definition in methodology AMS-I.F, If the proposed CPA supplies electricity to the end user (excess electricity may be supplied to the NCPG), which would have been supplied with electricity from the NCPG in the absence of the CPA, the baseline scenario is that the electricity delivered to the end user by the CPA would have otherwise been generated by the NCPG and the emission factor of a grid shall be calculated as per the procedures provided in AMS-I.D.

Therefore no further assessment of baseline alternatives is required.

## 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 /14/", 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. ERM CVS has validated 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.

	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?	<p>As per the attachment A of appendix B of the "Simplified modalities and procedures for small-scale CDM project activities" (Version 08) /13/, the grid-connected PV electricity generation project with the installed capacity smaller or equal to 15MW are automatically defined as additional, without further documentation of barriers.</p> <p>By on-site interview with the CME and local authorities, the validation team confirmed that the description of additionality assessment on CPAs which apply the methodology AMS-I.D. correctly follows the methodology.</p> <p>However, the description of additionality assessment on CPAs which apply the methodology AMS-I.F. is not clear enough. CAR 2 and CL 5 were raised for that. Please refer to CAR 2 and CL 5 in appendix B.</p> <p>The document "Simplified modalities and procedures for small-scale CDM project activities" (version 08) /13/ used in the GSP PoA-DD has been updated to guidelines on the demonstration of additionality of small-scale project activities (version 9) /13/ at the meeting of CDM EB68 on 20 July 2012.</p> <p>It is stated that all grid-connected or off-grid CPAs with installed capacity up to 15 MW, which apply the photovoltaic electricity generation technology, will be additional in the guidelines on the demonstration of additionality of small-scale project activities" (version 09) /13/.</p> <p>It is also updated in the PoA-DD that qualified CPA to apply the methodology AMS-I.F. is a greenfield solar PV generation project, and the electricity generated by the CPA will be supplied to the end user (excess electricity may be supplied to the NCPG), which means to be off-grid.</p> <p>Thus, CAR 2 and CL 5 are closed.</p> <p>It is guaranteed by the eligibility criteria that each CPA to be included into this PoA will employ the photovoltaic technologies and be no more than 15MW. Thus, all qualified CPAs to be included into this PoA are additional automatically.</p> <p>The validation team checked the demonstration and conclusion against the methodologies and the guidelines on the demonstration of additionality of small-scale project activities" (version 09) /13/, confirmed consistency.</p>	CAR-2  CL-5	OK

It is stated that all grid-connected or off-grid CPA with installed capacity up to 15 MW, which apply the photovoltaic electricity generation technology, will be additional in the guidelines on the demonstration of additionality of small-scale project activities" (version 09) /13/.

Moreover, it is guaranteed by the eligibility criteria set in the PoA-DD that each CPA to be included into this PoA will employ the photovoltaic technologies with no more than 15MW installed capacity and will be grid-connected or off-grid. Thus, all qualified CPA to be included into this PoA are additional automatically.

Thus, no more analysis needs to be made on the description of assessment of CPA additionality.

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The validation team checked the demonstration and conclusion against the methodologies and the guidelines on the demonstration of additionality of small-scale project activities" (version 09) /13/ and confirmed consistency.



## 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 17 of the 'Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities /14/' (EB 70 Annex 5). 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?	Yes. An operational and management system has been established by the CME for the implementation and management of the PoA.	OK	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>Some descriptions are not stated clearly in the PoA, including definition of roles and responsibilities of personnel, review procedure of CME's competencies, internal technical review method, arrangements for training and capacity development etc. hence CL 10 is raised. Please refer to CL 10 in the appendix B.</p> <p>The operational and management system in the PoA-DD has been updated to include clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies. Hence, CL 10 is closed.</p> <p>The validation team checked operational and management system in the PoA-DD with the latest guidelines and other requirements from EB and confirmed 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>	CL 10	OK
10.1.3	Does the system include records of arrangements for training and capacity development for personnel?	<p>Please refer to CL 10.</p> <p>The operational and management system in the PoA-DD (version 2.0) has been updated as CL 10 required. Hence, CL 10 is closed.</p> <p>The validation team checked operational and management system in the PoA-DD with the latest guidelines and other requirements from EB and confirmed that the system includes records of arrangements for training and capacity development for personnel. The operation and management plan states that the technical advisory team will provide training and capacity development for personnel in the whole process, and will also review the competencies of personnel involved in the process of inclusion of CPAs. The plan also sets out the basic competency requirements of CME staff.</p>	CL 10	OK
10.1.4	Does the system include procedures for technical review of inclusion of CPAs?	<p>Please refer to CL 10.</p> <p>The operational and management system in the PoA-DD has been updated as CL 10 required. Hence, CL 10 is closed.</p> <p>The validation team checked the procedure for technical review of inclusion of CPAs in the PoA-DD and confirmed compliance with the latest guidelines and other requirements from EB. The operation and management plan states that The Technical Expert and CDM Expert of the CME must conduct an onsite due diligence visit to the CPA location to review the CPA, and request additional documentary evidence if needed.</p>	CL 10	OK

	Question	Validation findings (including justification and substantiation of information, data and evidence)	Draft OK/ CAR/CL	Final OK/ Not 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)?	<p>Please refer to CL 10.</p> <p>The operational and management system in the PoA-DD has been updated as CL 10 required. Hence, CL 10 is closed.</p> <p>The validation team checked the procedure to avoid double counting in the PoA-DD with the latest guidelines and other requirements from EB and confirmed the compliance. The operation and management plan requires that each CPA provides a declaration stating that they are aware and agree that the project will be subscribed to the PoA, and that their project is not registered or seeking registration as a stand-alone CDM project activity, part of a bundle CDM project activity, or CPA under a PoA different from this PoA. Furthermore each CPA will be uniquely identified and the CME will check against the projects seeking validation or already registered in UNFCCC database to ensure that no double counting occurs, by checking the geographical coordinates of the CPA against the project activities included in the UNFCCC database.</p>	CL 10	OK
10.1.6	Does the system include records and documentation control process for each CPA under the PoA?	<p>Please refer to CL 10.</p> <p>The operational and management system in the PoA-DD has been updated as CL 10 required. Hence, CL 10 is closed.</p> <p>The CME will maintain records for each CPA, including details of the project owner, geographical coordinates, installation date, details of the technology, details of the electricity recipient, and confirmation that no public funding is involved. All information provided by the CPA implementers will be maintained in the electronic database maintained by the CME. All the relevant documental evidences will be stored by the CME as well.</p> <p>The validation team checked the records and documentation control process for each CPA under the PoA in the PoA-DD with the latest guidelines and other requirements from the EB and confirmed the compliance.</p>	CL 10	OK
10.1.7	Does the system include measures for continual improvements of the PoA management system?	<p>Please refer to CL 10.</p> <p>The operational and management system in the PoA-DD (version 2.0) has been updated as CL 10 required. Hence, CL 10 is closed.</p> <p>The validation team checked the measures for continual improvements of the PoA management system in the PoA-DD with the latest guidelines and other requirements from EB and confirmed the compliance. The operation and management plan requires that spot checks be performed on a quarterly basis to monitor progress, and these will be used to inform training needs and any requests for revision/deviation.</p>	CL 10	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>	No. No sampling would be employed within any CPAs of this PoA.	N/A	N/A

## **Conclusion**

No sampling would be employed within any CPAs of this PoA.

## 11 Validation Findings - Monitoring plan of a Typical CPA

ERM CVS evaluated the monitoring plan for the PoA and typical 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 typical 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 (version 2.0) includes all parameters necessary for monitoring of this type of project in accordance with the approved methodology that has been applied for the typical 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.

#### 11.1.1 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)
$EG_{facility,y}$ for AMS-I.D.(Version 17)	Quantity of net electricity supplied to the grid in year y	<p>This parameter in the monitoring plan is defined as <math>EG_{solar\ systems,y}^b</math>, describing total quantity of electricity supplied to NCPG from the CPA in year y, hence, CL 11 is raised. Please refer to CL11 in the appendix B.</p> <p>The correction has been made in the PoA-DD. The parameter monitored is changed to <math>EG_{facility,y}</math>, which is consistent with the methodology AMS-I.D. Hence, CL 11 is closed.</p> <p>Therefore, the parameters are appropriately included in the Monitoring Plan of the PoA-DD.</p>
$EG_{BL,y}$ for AMS-I.F.(Version 2.0)	Quantity of net electricity displaced in year y	<p>This parameter in the monitoring plan is defined as <math>EG_{solar\ systems,y}^a</math>. Therefore, CL 11 was raised in the appendix B.</p> <p>The correction has been made in the PoA-DD. The parameter monitored is changed to <math>EG_{BL,y}</math>, which is consistent with the methodology AMS-I.F. Hence, CL 11 is closed.</p> <p>Therefore, the validation team confirms that the parameter is appropriately included in the Monitoring Plan of the PoA-DD.</p>

	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>For the CPAs applying the methodology AMS-I.D./11/, the PP has correctly applied all parameters in the monitoring plan required by the methodology.</p> <p>For the CPAs applying the methodology AMS-I.F./11/, CL 9 and CL 11 were raised in the appendix B.</p> <p>As per the definition in methodology AMS-I.F., the mini-grid is defined as small-scale power system with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all generators connected to the mini-grid is equal to or less than 15 MW) which is not connected to a national or a regional grid.</p> <p>For the qualified CPA which supply the electricity to the end users (the excess electricity is supplied to the NCPG), the end user is defined as the user would have been supplied electricity from the NCPG in the eligibility criteria of PoA-DD. Therefore, the scenario based on the mini-grid system is excluded</p> <p>The correction has been made in the PoA-DD. The parameter monitored is changed to <math>EG_{BL,y}</math>, which is consistent with the methodology AMS-I.F.</p> <p>Hence, CL 9 and CL 11 are closed.</p> <p>The validation team confirm that all required parameters are included in the monitoring plan of the PoA-DD</p>	CL 9  CL 11	OK

Other monitoring parameters including Quantity of biomass consumed in year y, Moisture content of the biomass (wet basis) and Net calorific value of biomass type k are not relevant to this project activity because these type CPAs are Greenfield PV power project.

## Conclusion

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

### *11.1.2 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	$EG_{facility,y}$ (For CPAs applied AMS-I.D.)	$EG_{BL,y}$ (For CPAs applied AMS-I.F.)
Parameter Description correct?	Pending on CL 11  Yes	Pending on CL 11  Yes
Description in line with methodology?	Pending on CL 11  Yes	Pending on CL 11  Yes
Data unit correctly expressed?	Pending on CL 11  Yes	Pending on CL 11  Yes
Measurement method correctly described?	Pending on CL 11	Pending on CL 11

Monitored Parameters	EG <sub>facility,y</sub> (For CPAs applied AMS-I.D.)	EG <sub>BL,y</sub> (For CPAs applied AMS-I.F.)
	Yes	Yes
Measurement and recording frequency correctly described?	Pending on CL 11 Yes	Pending on CL 11 Yes
Correct reference to standards?	Pending on CL 11 Yes	Pending on CL 11 Yes
Indication of accuracy provided?	Pending on CL 11 Yes	Pending on CL 11 Yes
QA/QC procedures described?	Pending on CL 11 Yes	Pending on CL 11 Yes
QA/QC procedures appropriate?	Pending on CL 11 Yes	Pending on CL 11 Yes

	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>For the CPAs applying the methodology AMS-I.D./11/, all parameters are appropriately monitored in accordance with the methodology (including applicable tools).</p> <p>For the CPAs applying the methodology AMS-I.F./11/, CL 9 and CL 11 were raised in the appendix B.</p> <p>As per the definition in methodology AMS-I.F., the mini-grid is defined as small-scale power system with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all generators connected to the mini-grid is equal to or no more than 15 MW) which is not connected to a national or a regional grid.</p> <p>For the qualified CPA which supply the electricity to the end users (the excess electricity is supplied to the NCPG), the end user is defined as the user would have been supplied electricity from the NCPG in the eligibility criteria of PoA-DD. Therefore, the scenario based on the mini-grid system is excluded.</p> <p>Hence, CL 9 and CL 11 are closed.</p> <p>The validation team confirm that all required parameters are monitored in accordance with the applied methodologies (AMS-I.D. or AMS-I.F. /11/).</p>	CL 9  CL 11	OK

## **Conclusion**

The means of monitoring all relevant monitored parameters for a typical CPA complies with the requirements of the methodologies, including applicable tools.

### **11.2 Implementation of the monitoring plan**

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

## Operational and management structure:

The CME is fully responsible for the coordination and overall control. The personnel of CPAs owners are responsible for installation, maintenance and operation of CPAs.

All CPAs will be monitored by CME, either itself or through another credible company specially appointed for that, to install meters and/or other instrumentation and measurement equipment as is necessary to provide for accurate data needed for the calculation of GHG emission reductions, and to collect such data in a timely manner. The GHG emission reductions shall be calculated by the CME on the basis of this data.

## Equipment:

Calibrated electricity meters will be installed for the measurement of CPAs. The generated electricity will be continuously measured and recorded. All electricity meters, instrumentation and other measurement equipment will be regularly calibrated by CME or its designated company in accordance with the industries' requirements.

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

Data on electricity net supply will be digitally archived at least on a monthly basis. In the case of electricity sold to a third party, measurement results shall be cross-checked with records of sold/purchased electricity (e.g. invoices/receipts).

In case of any doubts as to the accuracy of the input data, the designated person of CME shall check and correct the data. If any measuring instrument that is used in the monitoring process fails, either the CME or another company employed by CME shall remedy or, if necessary, replace it as soon as possible.

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	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)	The operational and organisational structure will be defined on a CPA level. The framework of the monitoring plan set out in the PoA DD is considered sufficient to fulfil the monitoring requirements of the methodology and to ensure that emission reductions can be verified.  The equipment setup and details of accuracy and calibration will be defined on a CPA level.  The framework for data management set out in the PoA DD is considered appropriate to fulfil the monitoring requirements of the methodology and to ensure that emission reductions can be verified. Further details will be provided at CPA level.  The monitoring plan framework set out in the PoA DD was validated by means of interviews with representatives of the CME and their CDM consultants.	OK	OK

## **Conclusion**

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

- (a) The monitoring plan for a typical CPA is fully in compliance with the requirements of the methodologies;
- (b) The monitoring arrangements described in the monitoring plan are feasible within the design of a typical CPA;

- 
- (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 typical CPA 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.



## 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?	<p>The host country LoA has not been provided. Please refer to CAR 1</p> <p>After the host country LoA /03/ and MoC /05/ were provided and reviewed. CAR 1 is closed.</p> <p>Yes. The LoA from the Host Party confirm that the project activity contributes to the sustainable development of that country, which has been checked by the validation team against the LoA /03/.</p>	CAR-1	OK

### 12.2 Local Stakeholder Consultation

The stakeholder consultation will be conducted on a CPA level. This has been appropriately described in the PoA DD /01/.

### 12.3 Environmental Impacts

The Environmental impacts are assessed on a CPA level. This has been appropriately described in the PoA DD.

### 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	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 is involved in the PoA and CPAs as set in eligibility criteria of the PoA DD. This was also validated based on interviews with the CME and implementer of the first CPA.	OK	OK
	Is the information provided on public funding (PoA-DD, Annex 2) provided in compliance with the actual situation or planning?	Yes. Information in the PoA-DD /01/ correctly reflects the actual situation.	OK	OK

## Conclusion

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There is no public funding from an Annex 1 country to support the PoA, and no public funding from an Annex 1 country is planned to be used in any of the CPAs to be included. The validation team has confirmed it with on-site interview with the CME and local authorities.

## Appendix A: Documents and Interviewees

### A.1 DOCUMENT LIST

Reference number	Date	Document Title and version number (if applicable)
/01/	24 May 2012 12 November 2012	<b>PoA Design Document</b> for the proposed PoA  Version 1.0 (for GSP)  Version 2.0 (final)
/02/	24 May 2012 22 November 2012	<b>Real Case CPA Design Document -- "Datang Qingyun Solar PV Power Project" CPA-001</b>  Version 1.0 (for GSP)  Version 2.0 (final)
/03/	19 October 2012	<b>Host Country Letter of approval</b> for the proposed project issued by NDRC, China
/04/	31 October 2012	<b>Annex-I country Letter of approval</b> for the proposed project issued by Environment Agency, the UK
/05/	Signed by 'SinoCarbon Innovation & Investment Co., Ltd.' on 26 November 2012  Signed by 'Blue World Carbon Capital PCC' on 05 December 2012  26 November 2012  03 December 2012	<b>Modalities of Communication</b> for the proposed project.    Authorization letter from SinoCarbon Innovation & Investment Co., Ltd. to authorize Mr. Wenqiang Wang to sign the MoC on behalf of SinoCarbon Innovation & Investment Co., Ltd.  Authorization letter from Blue World Carbon Capital PCC to authorize Mr. Nicholas Landor and Ms. Emma Parmiter to sign the MoC on behalf of Blue World Carbon Capital PCC.
/06/		Shandong Province Government Website:  <a href="http://www.sd.gov.cn/col/col101/index.html">http://www.sd.gov.cn/col/col101/index.html</a>
/07/		UNFCCC GSP URL  <a href="http://cdm.unfccc.int/ProgrammeOfActivities/Validation/gotoProj?id=KNHXXFXXY9ZRB1H7QE1ECLKDPVNFTN">http://cdm.unfccc.int/ProgrammeOfActivities/Validation/gotoProj?id=KNHXXFXXY9ZRB1H7QE1ECLKDPVNFTN</a>
/08/	13 Mar 2012.  11 May 2012.	<b>Preparation of the PoA-DD</b>  CDM Executive Board, Programme Design Document Form For Small-scale CDM Programme Of Activities, Version 2.0.0, EB66 Annex 13  CDM Executive Board, Guidelines for completing the programme design document form for small-scale CDM programme of activities, Version 2.0.0, EB67 Annex 30
/09/	23 November 2012	CDM Executive Board, Glossary of CDM terms, Version 07.0.
/10/	23 November 2012	Clean Development Mechanism Validation and Verification Standard (VVS), Version 03.0, EB70

Reference number	Date	Document Title and version number (if applicable)
/11/	03 June 2011 03 June 2011	<b>Approved Methodology applied for the PoA</b>  AMS-I.D.: Grid connected renewable electricity generation, Version 17, EB 61  AMS-I.F.: Renewable electricity generation for captive use and mini-grid, Version 2.0, EB 61
/12/	29 Sep 2011	<b>Methodological tools applied for the PoA</b>  CDM Executive Board, Tool to calculate the emission factor for an electricity system, Version 2.2.1, EB63
/13/	29 Sep 2011 20 July 2012	CDM Executive Board, Attachment A of Appendix B of the "Simplified modalities and procedures for small-scale CDM project activities, Version 08, EB63 Annex24  CDM Executive Board, Guidelines on the demonstration of additionality of small-scale project activities, Version 09, EB68 Annex27
/14/	03 December 2012	CDM Executive Board, Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, Version 02.1, EB70
/15/		Website of China DNA:  <a href="http://cdm.ccchina.gov.cn/">http://cdm.ccchina.gov.cn/</a>
/16/		E-mail letter from the Environment Agency of the UK on delivery the LoA.
/17/	28 May 2010  29 September 2011	<b>CDM EB Guidelines applied for the project</b>  CDM Executive Board, Guidelines on assessment on debundling for SSC project activities, Version 03, EB54, Annex 13  EB guidance on the application of approved methodology AM0005 now consolidated into ACM0002 can be applied for the purpose of estimating the build margin emission factor for each fuel type
/18/	Yearly updated  Latest version would be applied on CPA level.	China Energy Statistic Yearbook  China Electric Power Yearbook
/19/	Periodically updated  Latest version would be applied on CPA level.	IPCC Guidelines on National GHG Inventories
/20/	01 Jan 2006	Renewable Energy Law, Issued by Chinese government
/21/	Valid to 26 July, 2030	Business license of SinoCarbon Innovation & Investment Co., Ltd, issued by Beijing Administration of industry and Commerce.
/22/	Yearly updated  Latest version would be applied on CPA level.	Notification on Determining Baseline Emission Factors for China Power Grids by NDRC
/23/	19 November 2012	ER calculation spreadsheet of this CPA, Version 1
/24/	20 April 2012	The board meeting minute of developing specific CPA
/25/		Evidence of 50 questionnaires of the stakeholder survey for the specific CPA

Reference number	Date	Document Title and version number (if applicable)
/26/	8 April 2011	Code for preparation of photovoltaic power projects feasibility study report (GD003-2011), issued by Water resource and hydropower planning and Design Institute.
/27/	22 March 2008	Assessment method for solar energy resources(QX/T89-2008), issued by China meteorological administration
/28/	03 August 2011	Revised version of the Measures for Operation and Management of Clean Development Mechanism Projects in China, issued by NDRC

## A.2 INTERVIEWS

Reference	Name	Title & Organisation	Main topics discussed
IV1	Ms. Xiaochen Shi	Project Manager, SinoCarbon Innovation & Investment Co., Ltd	<p>General information and various aspects of this PoA related to CDM, which include but not limited to:</p> <ul style="list-style-type: none"> <li>PoA background information(geographic definition, voluntary action, major data input in PoA-DD);</li> <li>CDM consideration.</li> <li>Government policies related</li> <li>Confirmation that the proposed PoA is a voluntary action</li> <li>PoA/CPA monitoring and management plan</li> <li>Applicability of selected methodology.</li> <li>Baseline determination.</li> <li>Eligibility criteria for CPA inclusion.</li> <li>Emission reductions calculation.</li> <li>Technology applied and grid connected method;</li> <li>Information of public funding;</li> <li>Contribution to Sustainable Development;</li> <li>Operation and management arrangement of the PoA(incl. recording, CPA operation, avoiding double accounting )</li> <li>PoA/CPA environment impact.</li> <li>Local stakeholders consultation.</li> </ul>
IV2	Mr. Jianzhong Ma	Vice Director, Datang Shandong Electricity Generation Co., Ltd.	
IV3	Ms. Meiru Yi	Section Chief, Development and Reform Bureau of Dezhou city, Shandong province.	
IV4	Ms Jing Wang	Section Chief, Environmental protection Bureau of Dezhou city, Shandong province.	
IV5	Mr. Kaifeng Yan	Service Manager, Datang Shandong Electricity Generation Co., Ltd.	
IV5	Mr. Guozhen Lv	Project Manager, Datang Shandong Electricity Generation Co., Ltd.	
IV5	Mr. Jinye Shang	Local resident	
IV6	Mr. Jinliang Shang	Local resident	

## 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
<p>CAR 1</p> <p>The LoAs and MoC have not been provided.</p>	<p>5.1.1</p> <p>5.1.2</p> <p>5.1.3</p> <p>5.1.4</p> <p>5.2.1</p> <p>5.3.1</p> <p>5.4.1</p> <p>12.1.1</p>	<p>The LoAs and MoC have been provided to DOE.</p>	<p>The validation team check the LoAs and MoC and confirm that:</p> <p>The host party and Annex 1 country's LoAs were consistent with the PoA-DD as well as the MoC and in compliance with the requirement of VVS.</p> <p>The MoC was appropriately signed between the PPs and in accordance with requirement of the VVS.</p> <p>Hence, CAR 1 is closed.</p>
<p>CAR 2</p> <p>The PoA-DD states that all CPAs will be additional because they apply solar PV technology and have installed capacity of no more than 15 MW. However, as per the attachment A of appendix B of the "Simplified modalities and procedures for small-scale CDM project activities" (Version 08)/10/, the small-scale solar PV electricity generation technologies are considered as additional automatically only if the facilities are grid-connected. Demonstration of additionality for CPAs that are not connected to the grid is</p>	<p>7.1.6</p> <p>7.1.14</p> <p>9.4.1</p>	<p>According to the "Simplified modalities and procedures for small-scale CDM project activities" (version 8.0 reported as Annex 24 to EB 63) used in the PoA-DD (version 1.0), the CPA will be additional automatically, if the CPA is grid-connected, applies solar PV technology and has installed capacity of no more than 15MW.</p> <p>However this document, whose title is "Guidelines on the demonstration of additionality of small-scale project activities" now was updated to version 9.0 reported as Annex 27 to EB 68 on 20/07/2012. And yet the validation findings have been raised by DOE on 07/07/2012.</p>	<p>As per the guidelines on the demonstration of additionality of small-scale project activities (version 9.0, EB 68 on 20/07/2012), all CPA, applying solar PV technology and with installed capacity of no more than 15MW, grid-connected or off-grid, will be additional automatically.</p> <p>ERM CVS has checked the eligibility criteria, applied methodologies and relevant guidelines and deemed it was reasonable and acceptable that all qualified CPAs guaranteed by the eligibility criteria would be additional automatically.</p>

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Corrective Action Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
therefore not correct.		<p>So in line with the new guideline, both grid-connected and off-grid connected CPAs qualified to be included in the PoA according to the eligibility criteria will be additional automatically.</p> <p>The description has been updated in PoA-DD.</p>	CAR 2 is closed.
<p>CAR 3</p> <p>The procedures and conditions of the debundling check are not mentioned in the criteria eligibility and relevant descriptions in section C of PoA-DD are not in line with the guidelines on assessment on debundling for SSC project activities (Version 03, Annex 13, EB 54)/11/.</p>	<p>7.1.11</p> <p>7.1.14</p>	<p>In line with the "Guidelines on Assessment of Debundling for SSC Project Activities" (Annex 13, EB 54), a CPA will be deemed to be a de-bundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity which meets the following conditions:</p> <ul style="list-style-type: none"> <li>Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same technology/measure, and;</li> <li>The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point. The description has been included in PoA-DD (version 2.0).</li> </ul> <p>Each CPA will be checked in the inclusion process.</p> <p>This content has been included in the criteria and updated in Section B.2 Part I of the revised PoA-DD).</p>	<p>The procedures and conditions of the debundling check have been updated in the eligibility criteria of the revised PoA-DD.</p> <p>ERM CVS checked the procedures and conditions against the guidelines on assessment on debundling for SSC project activities (Version 03, Annex 13, EB 54) /17/ and deemed that they are reasonable and acceptable.</p> <p>CAR 3 is closed.</p>

Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion

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<p>CL 1</p> <p>The generic CPA-DD does not contain sufficient information to understand a typical CPA, and does not clarify what information related to CPA description will have to be specified at CPA inclusion stage, including :</p> <ul style="list-style-type: none"> <li>List of main technologies involved in a typical CPA</li> <li>List of main equipment and installations in a typical CPA</li> <li>Template for the lifetime of the project equipment</li> <li>Template for monitoring equipment and its location</li> <li>Template for capacities and efficiencies</li> <li>Emissions sources and GHGs involved in the PoA</li> <li>Template for forecasted electricity generation</li> <li>Template for description of technology transfer from Annex I countries (if applicable)</li> <li>Template for geographical coordinates (decimal)</li> </ul>	6.4.3	<ul style="list-style-type: none"> <li>Each SSC-CPA will take advantage of the solar photovoltaic (PV) technology, i.e. convert solar radiation into electrical energy. Such technologies may include, but are not limited to: wafers (cells) made from single crystal silicon, polycrystalline silicon and ribbon silicon as well as advanced thin film technologies.</li> <li>The main equipment of each CPA includes PV panels, solar trackers and inverters. PV panels may be connected together to form a solar array. PV panels may also be fitted with trackers. The solar tracker is a device capable of turning after the sun, which means following the sun track from it is rising in the east to its setting in the west. They will be installed at the roof, ground or other places.</li> <li>Emissions sources and GHGs involved in the PoA are combustion of fossil fuel at the existing grid-connected power plants and plants which would likely be built in the absence of the PoA.</li> </ul> <p>All the information above and the template have been included in the section A.1 Part II of PoA-DD.</p>	<p>ERM CVS confirm that the information below have been correctly described in section A.1 of the revised generic PoA-DD.</p> <ul style="list-style-type: none"> <li>List of main technologies involved in a typical CPA</li> <li>List of main equipment and installations in a typical CPA</li> <li>Template for the lifetime of the project equipment</li> <li>Template for monitoring equipment and its location</li> <li>Template for capacities and efficiencies</li> <li>Emissions sources and GHGs involved in the PoA</li> <li>Template for forecasted electricity generation</li> <li>Template for description of technology transfer from Annex I countries (if applicable)</li> <li>Template for geographical coordinates (decimal)</li> </ul> <p>The technology description for a typical CPA was considered reasonable based on ERM CVS's local and sectoral knowledge, and on the basis of interviews with the CME.</p> <p>CL 1 is closed.</p>
<p>CL 2</p> <p>The definition of the geographical boundary in the PoA-DD is not described clearly. Moreover, the compliance and procedure to make the criteria verifiable is needed.</p>	<p>7.1.1</p> <p>7.1.14</p>	<p>The definition of PoA geographical boundary is not clear enough before. All the CPAs will be located within Shandong Province and this description has been kept consistent in the PoA-DD and generic CPA-DD.</p> <p>Each CPA will be checked in the inclusion process through the map and coordinate's description.</p>	<p>The correction has been made clearer in the PoA-DD. The geographical boundary of the PoA is Shandong Province, and all CPAs must be located in Shandong province. This was clarified in the eligibility criteria of the PoA-DD.</p> <p>ERM CVS confirmed that relevant criteria are verifiable and sufficiently objective, since the location of CPAs can be verified based on the location in the official map and their geographical coordinates.</p> <p>CL 2 is closed.</p>



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Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
<p>CL 3</p> <p>The range of capacities and relevant standard(s) of testing/certifications for applied technology is not described in the PoA-DD.</p>	<p>7.1.3</p> <p>7.1.14</p>	<p>Each CPA shall use PV technologies which enable to convert solar radiation into electrical energy. The capacity of each CPA will be no more than 15MW. These information will be demonstrated in the FSR compiled by a qualified third party according to relevant standards, including but are not limited to "Code for preparation of photovoltaic power projects feasibility study report"(GD003-2011) and "Assessment method for solar energy resources "(QX/T89-2008) .</p> <p>This information has been included in the revised PoA-DD.</p>	<p>The range of capacities and relevant standard(s) of testing/certifications for the applied technology has been included in the revised PoA-DD.</p> <p>ERM CVS deemed that acceptable and sufficiently objective.</p> <p>CL 3 is closed.</p>
<p>CL 4</p> <p>The contents of "agreements" proving the start date of CPAs and analysis on its rationale is not provided in the PoA-DD. Moreover, the compliance and procedure to make the criteria verifiable is needed.</p>	<p>7.1.4</p> <p>7.1.14</p>	<p>According to the Glossary of CDM terms, Version 07.0/09/, the start date is the earliest date at which either the implementation or construction or real action of the CPA begins.</p> <p>So the agreements mentioned in the PoA-DD include Equipment Purchase Contract, Construction Contract Construction Approval Letter and so on.</p> <p>Each CPA will be checked in the inclusion process.</p> <p>This criterion has been updated in Section B.2 Part I of PoA-DD.</p>	<p>The correction has been made in the eligibility criteria of the PoA-DD and the earliest date at which either the implementation or construction or real action of the CPA begins will be the start date of each CPA, based on the definition of start date in Glossary of CDM terms, Version 07.0.</p> <p>Documental evidence such as Equipment Purchase Contract, Construction Contract, Construction Approval Letter and so on will be checked and reviewed.</p> <p>ERM CVS deemed that the compliance and procedure updated in the PoA-DD acceptable and sufficiently objective and verifiable.</p> <p>CL 4 is closed.</p>
<p>CL 5</p> <p>The clarification on where the electricity produced by the CPAs will be delivered to as per the definition in methodology AMS-I.D. and AMS-I.F is needed. Moreover, the compliance and procedure to make the criteria verifiable is not provided in the eligibility criteria of the PoA-DD.</p>	<p>7.1.5</p> <p>7.1.14</p> <p>9.4.1</p>	<p>Electricity produced by the CPAs will be supplied either to:</p> <ul style="list-style-type: none"> <li>➤ The end user, which would have been supplied with electricity from the NCPG in the absence of the activity (excess electricity may be supplied to the North China Power Grid); or</li> <li>➤ The North China Power Grid (NCPG)</li> </ul>	<p>As specified in the eligibility criteria of the PoA-DD, electricity produced by the qualified CPA would be supplied either to:</p> <ul style="list-style-type: none"> <li>● The end users (excess electricity may be supplied to the North China Power Grid, NCPG) , which would have been supplied with electricity from the NCPG in the absence of the activity;</li> </ul>

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Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
		<p>Grid Connection Agreement, Power Purchase Agreement or other evidences can be checked in the CPA inclusion process.</p> <p>The information has been updated in Section B.2 Part I of PoA-DD.</p>	<p>● Or to the NCPG.</p> <p>The grid connection agreement, power purchase agreement and other evidences would be ready for checking.</p> <p>ERM CVS deemed that the compliance and procedure updated in the PoA-DD acceptable and sufficiently objective.</p> <p>CL 5 is closed.</p>
<p>CL 6</p> <p>The criteria checking whether a CPA satisfied all the requirements with regard to local stakeholder consultations and environmental impact analysis is not described clearly in the PoA-DD. Moreover, the compliance and procedure to make the criteria verifiable is needed.</p>	<p>7.1.7</p> <p>7.1.14</p>	<p>Local stakeholder consultations and environmental impact analysis (EIA) would be carried out on the CPA level. The specified conditions have been included in Section B.2 Part I of the PoA-DD.</p>	<p>It is updated in the PoA-DD that local stakeholder consultations and stakeholder questionnaires would be carried out for collecting the comments from all local stakeholders on CPA level.</p> <p>For the environmental impact analysis (EIA), an assessment of the Impact on air, water, acoustic and solid environment would be carried out, which is in accordance with host country requirements. The EIA report and approval documents will be ready for checking and reviewing.</p> <p>ERM CVS deemed that the compliance and procedure updated in the PoA-DD are acceptable and sufficiently objective.</p> <p>CL 6 is closed.</p>
<p>CL 7</p> <p>The compliance and procedure to make the criteria verifiable for affirmation of funding from Annex I parties is not provided in the PoA-DD.</p>	<p>7.1.12</p> <p>7.1.14</p>	<p>Each CPA will not have funding from Annex I parties; otherwise it will not be included in the PoA.</p> <p>The loan contract or other public documents demonstrating no funding from Annex I parties should be checked in the CPA</p>	<p>The eligibility criteria have been updated in the PoA-DD.</p> <p>ERM CVS deemed that the compliance and procedure updated in the PoA-DD are acceptable and sufficiently objective.</p>

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Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
		inclusion process.  This criterion has been updated in Section B.2 Part I of PoA-DD.	CL 7 is closed.
CL 8  Further clarification on whether the CPAs would apply the methodologies AMS-I.D and AMS-I.F separately or combined is needed. Furthermore if the methodologies are combined, the explanation and justification on whether cross effects exist is needed.	8.2	Each CPA will apply the methodology AMS-I.D or AMS-I.F separately. Each CPA will be an independent activity, so there are no cross effects.  This criterion has been updated in Section B.2 Part I of PoA-DD.	As specified in the eligibility criteria of the PoA-DD, electricity produced by the qualified CPA would be supplied to:  <ul style="list-style-type: none"> <li>Either the end users (excess electricity may be supplied to the North China Power Grid, NCPG), which would have been supplied with electricity from the NCPG in the absence of the activity.</li> <li>Or the NCPG.</li> </ul> It is also set in the eligibility criteria that each CPA will apply the methodology AMS-I.D or AMS-I.F separately.  Based on above demonstration, ERM CVS deemed no cross effect exist since all qualified CPAs will apply the methodology AMS-I.D or AMS-I.F separately.  CL 8 is closed.
CL 9  For the CPAs that involve small-scale methodology AMS-I.F, the explanation why the baseline scenario based on a mini-grid system has been excluded is not provided in the PoA-DD.	8.4.1  8.5.1  8.5.2  11.1.1  11.1.2	A mini-grid is defined as small-scale power system with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all generators connected to the mini-grid is equal to or less than 15 MW) which is not connected to a national or a regional grid.  Electricity generated by each CPA will be supplied to users which would have been supplied electricity from NCPG.  And relevant evidence, such as Power Purchase Agreement, Grid Connected Agreement or other documents will be	For the qualified CPA which supply the electricity to the end users (excess electricity may be supplied to the North China Power Grid), the end user is defined as the user would have been supplied electricity from the NCPG in the eligibility criteria of PoA-DD.  And as per the definition in methodology AMS-I.F., the mini-grid is defined as small-scale power system with a total capacity not exceeding 15 MW (i.e. the sum of installed capacities of all generators connected to the mini-grid is equal to or no more 15 MW) which is not

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Clarification Requests	Ref. to Question Number	Summary of PPs' response	Final conclusion
		checked in the CPA inclusion process.	connected to a national or a regional grid.  Based on above demonstration, ERM CVS deemed the baseline scenario based on a mini-grid system is appropriately and reasonably excluded as per the methodology AMS-I.F.  CL 9 is closed.
CL 10  The management system described in the PoA-DD is not consistent with the requirement of the standard for demonstration of additionality, development of eligibility criteria and application of multiple methodology for programme of activities.	7.1.13  7.1.14  10.1.2  10.1.3  10.1.4  10.1.5  10.1.6  10.1.7	The management system has been updated in section C of Part I of revised PoA-DD, please check.	ERM CVS checked the updated operational and management system in the PoA-DD with the latest guidelines and other requirements from the EB and confirmed that the operational and management system includes a clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies.  The operation and management system is validated in more detail in section 10 above.  CL 10 is closed.
CL 11  The monitoring parameters in the monitoring plan are not consistent with AMS-I.D.(Version 17) and AMS-I.F.(Version 2.0).	11.1.1  11.1.2	According to AMS-I.D, $EG_{facility,y}$ (Quantity of net electricity supplied to the NCPG from the CPA in year y) will be monitored.  According to AMS-I.F, $EG_{BL,y}$ (Quantity of net electricity displaced from the CPA in year y) will be monitored.  Two monitoring parameters have been updated in the section B.7.1 of 2 generic CPA-DDs in Part II of revised PoA-DD.	ERM CVS checked the updated monitoring parameters against the applied methodologies and deemed that the monitoring parameters are appropriately included in the monitoring plans of 2 generic CPA-DDs in Part II of revised PoA-DD.  CL 11 is closed.

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In addition some editorial and minor changes to the PoA-DD were made by the PP that had no relevance on compliance with CDM requirements.

Minor issues	Ref. to Section Number	Summary of PP's response	Final conclusion
Minor issue 1  The description of solar electrical technology applied in the PoA-DD is not consistent with the methodologies AMS-I.D. and AMS-I.F.	7.1.3	All the "solar electrical technology" has been changed to "photovoltaic technology".	The correction has updated in the revised PoA-DD. The validation team checked the description against the methodologies AMS-I.D. and AMS-I.F and confirmed the consistency. Thus, Minor issue 1 is closed.

Forward Action Requests	Ref. to Section Number	Summary of PP's response	Final conclusion
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No FARs was raised.