



South Asia

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Validation Report

VALIDATION OF THE CDM-PoA:
PV PROJECT DEVELOPMENT IN CHILE

AND VALIDATION OF THE SPECIFIC CDM-CPA:
PV PROJECT IN LA TIRANA, CHILE

REPORT NO. 600500941

23 December 2012

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Date of first issue of this report	Revision No. of this report	
23-12-2012	2	
Managing Entity (contractor): C-Quest Capital LLC (Client) 1211 Connecticut Ave NW, Suite 800 Washington , D.C USA 20036 Solar Chile Av. Parque Antonio Rabat Sur 6165, Vitacura, Santiago , Chile	Host Country: Chile	
CPA Implementer: Solar Chile Av. Parque Antonio Rabat Sur 6165, Vitacura, Santiago , Chile C-Quest Capital LLC (Client) 1211 Connecticut Ave NW, Suite 800 Washington , D.C USA 20036	Project Site: property tax record is 4327-4, 4 km southwest of the township of La Tirana, Chile	
Applied Methodology / Version: ACM 0002 version 12.3.0		Scope(s): 1 Technical Area(s): 1.2
First PoA-DD Version (GSP): PoA-DD version date: 01-04-2012 Version No.: 01 Starting Date of GSP 20-04-2012	First CPA-DD Version (GSP): CPA-DD version date: 01-04-2012 Version No.: 01 Starting Date of GSP 20-04-2012	
Final PoA-DD version: PoA-DD version date: 02-12-2012 Version No.: 05	Final CPA-DD version: CPA-DD version date: 02-12-2012 Version No.: 05	

VALIDATION OPINION

TÜV SÜD has performed a validation of the aforementioned CDM programme of activity (PoA) and specific CPA.

Standard auditing techniques have been used for the validation of the PoA and the specific CPA. An internal validation checklist has been prepared to conduct the validation process in a transparent and comprehensive manner.

The review of the PoA and CPA design documentation, subsequent follow-up interviews, and further verification of references have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria in the protocol. In the opinion of TÜV SÜD, the PoA and the specific CPA fulfil all relevant UNFCCC requirements for the CDM if the underlying assumptions do not change. TÜV SÜD recommends the PoA for registration by the CDM Executive Board. TÜV SÜD also recommends the specific CPA for inclusion under the PoA.

An analysis, as provided by the applied methodology, demonstrates that the proposed activity is not a likely baseline scenario. Emission reductions attributable to the activity are additional to any that would occur in the absence of the programme. Considering that the PoA will be implemented as designed, the CPAs under the same are likely to achieve emission reductions. Furthermore, considering that the project will be implemented as designed, the project is likely to achieve the estimated annual amount of emission reductions of 80,207 tCO₂e and a total estimated of 802,070 tCO₂e as specified within the final CPA-DD version.

The validation has been performed following the requirements of the version 2.0 of the CDM VVS and on the basis of the contractual agreement. The single purpose of this report is its use during the registration process as part of the CDM project cycle. Based on the work described in this report, nothing has come to our attention that causes us to believe that any project component or issue has not been covered by the validation process.

Pune, 23/12/2012



Certification Body "Environment and Energy"
TÜV SÜD South Asia Pvt Ltd

Abbreviations

ACM	Approved Consolidated Methodology
BM	Build Margin
CAR	Corrective Action Request
CB	Certification Body
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
CER	Certified Emission Reduction
CM	Combined Margin
CME	Coordinating Managing Entity
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
CR	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Green House Gas(es)
GSP	Global Stakeholder Consultation / Process
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
IRR	Internal Rate of Return
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
OM	Operating Margin
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD South Asia Pvt. Ltd
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Clean Development Mechanism Validation And Verification Standard

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1 INTRODUCTION

1.1 Objective

The objective of the validation process is to provide an independent assessment by a third party, a Designated Operational Entity (DOE), of the proposed Programme of Activities (PoA) and the Component Project Activity (CPA; generic and specific) against the applicable CDM requirements. The assessment involves the evaluation whether the proposed activities comply with the requirements of §37 of the CDM modalities and procedures, the applicability conditions of the selected methodology and any applicable guidance issued by the CDM Executive Board (CDM-EB).

The PoA validation is part of the PoA CDM project cycle and results in a conclusion by the executing DOE on whether or not the PoA is valid to be submitted for registration to the CDM-EB. The CPA validation is also part of the PoA CDM project cycle and results in a conclusion by the executing DOE on whether or not a CPA is valid to be included under the proposed PoA. The ultimate decision on the registration of a proposed PoA rests with the CDM-EB and the Parties involved.

1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM PoA, the scope is set by:

- The Kyoto Protocol, in particular §12 and modalities and procedures for the CDM;
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords);
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1);
- Clean Development Mechanism Validation And Verification Standard (VVS) published under <http://cdm.unfccc.int>;
- Decisions and specific guidance outlined by the EB which are published under <http://cdm.unfccc.int>;
- Guidelines for completing the CDM PoA and CPA design documents (PoA-DD and CPA-DD) and the applied CDM methodology;
- Baselines and monitoring methodologies (including GHG inventories);
- Management systems and auditing methods;
- Environmental issues relevant to the applicable sectoral scope;
- Applicable environmental and social impacts and aspects of the CDM PoA;
- Sector specific technologies and their applications;
- Current technical and operational knowledge of the specific sectoral scope and information on best practice.

The validation process is not meant to provide any form of consulting to the project participant (PP). However, stated requests for clarifications, corrective actions, and/or forward actions may provide input for improvement of the programme design.

Once TÜV SÜD receives the design documents, it is made publicly available through a dedicated interface on the UNFCCC CDM website for global stakeholder consultation. The duration of the period for submission of comments for the global stakeholder consultation is 30 days.

2 VALIDATION METHODOLOGY

The information provided by the project participant(s) is assessed by applying the means of validation specified in the “Clean Development Mechanism Validation And Verification Standard” and standard auditing techniques. In the absence of specific means of validation specified in the VVS, the standard auditing techniques are applied.

A competent team is selected for the performance of the validation prior to the start of the assessment. The team is selected to cover the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the CDM PoA and specific CPA. Once the program is made available for the stakeholder consultation process, members of the team carry out the desk review, follow-up actions, resolution of issues identified, and the preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control by the CB “Environment and Energy” before being submitted to the CDM-EB.

In case the validation team identifies issues that require further elaboration, research or expansion in order to determine whether the activities meet the CDM requirements, and whether the CPAs under the same PoA can achieve credible emission reductions, findings are raised as specified in the VVS.

All corrective action and clarification requests shall be closed out in order to submit the request for registration for this PoA.

All requests are listed in annex 1 of this validation report including the responses provided by the project participant(s) as well as the means of validation of these responses and any references to any resulting changes in the design documents or supporting annexes.

2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment, TÜV SÜD composed a project team in accordance with the appointment rules of the TÜV SÜD Certification body “Environment and Energy”.

The composition of an assessment team has to be approved by the Certification Body (CB) to assure that the required skills are covered by the team. The CB TÜV SÜD operates the following qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL);
- Validator (V);
- Validator Trainee (T);
- Technical Experts (TE);
- Country expert (CE);
- Technical review (TR).

It is required that the sectoral scope(s) and the technical area(s) (TA) linked to the methodology and project has to be covered by the assessment team. A technical review is conducted to perform a check on quality and completeness. Appointment certificates are attached to this report in Annex 3.

Assessment Team:

Name	Qualification	Coverage of scope	Coverage of technical area	Coverage of financial aspect	Host country experience	Conducted On-site visit
Bhai Raja Maharjan	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>
Praveen Tekchandani	V	-	-	-	-	<input checked="" type="checkbox"/>
Luis Miguel Aparicio	CE	-	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Technical Reviewer:

Name	Qualification	Coverage of scope	Coverage of technical area	Coverage of financial aspect
Bratin Roy	TR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Appointment certificates are attached to this report in Annex 3.

2.2 Review of Documents

The GSP-DDs and additional background documents related to the PoA and specific CPA design and baseline have been reviewed to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources was performed as an initial step of the validation process. A complete list of all documents and evidences reviewed is attached as annex 2 to this report.

2.3 Follow-up Interviews

From 07/05/2012 to 11/05/2012, TÜV SÜD performed a physical site inspection and interviews with project stakeholders to confirm relevant information and to resolve issues identified in the first document review. A list of all persons interviewed in this process is presented in annex 2 to this report.

2.4 Cross-check

During the validation process the team has made reference to available information related to similar projects or technologies as described in the CDM PoA and CPA. Project documentation has also been reviewed against the approved methodology applied to confirm the appropriateness of formulae and correctness of calculations.

2.5 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions (CAR), clarifications (CR), and any other outstanding issues which need to be clarified for TÜV SÜD's conclusion on the PoA and CPA design. The CARs and CRs raised by TÜV SÜD are resolved during communication between the managing entity, the CPA implementer and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are documented in more detail in annex 1 to this report.

2.6 Internal Quality Control

Internal quality control within the team is assured by means of a technical review process that takes place after the on-site assessment and after the closure of findings. The internal quality control in the validation process is given by the final decision (Validation Opinion) made by the CB "Environment and Energy".

3 REPORTING REQUIREMENTS

The assessment work and the main results are described below in accordance with the CDM Validation and Verification Standard (VVS) version 2.0. The reference documents indicated in this report are stated in annex 2 of this report.

3.1 Global stakeholder consultation

Comment submitted by: No comments submitted during Global stakeholder consultation	Date: -
Issue raised: NA	
Actions taken due account of the comment: NA	
Final conclusion: NA	

3.2 Approval, Authorization and Contribution to sustainable development

Party / DNA	Authorized Project Participant(s)
Chile / National Environment commission (Ministerio del Medio Ambiente)	LoA from DNA authorizes following two project participant: <ul style="list-style-type: none"> • 'C-Quest Capital LLC' as CME • 'Solar Chile' as Project Participant.
<p>The Party issued a LoA (IRL #18)</p> <p>The Party's DNA is included in the list available on the UNFCCC CDM.</p> <p>The project participant mentioned above has been authorized by the aforementioned DNA.</p> <p>TÜV SÜD received the LoA from the project participants and has confirmed authenticity by checking the DNA's website online (IRL #33, 34).</p> <p>The letter also indicates that the participating Party is a Party to the Kyoto Protocol, and that the participation in the above mentioned PoA is voluntary. In addition, the letter also confirms that the proposed PoA contributes to the sustainable development of Chile (host country). After checking the provided LoA, TÜV SÜD confirms that the letter refers to the precise proposed PoA title in line with the title in the PoA-DD submitted for registration. Based on the information given in the letter, TÜV SÜD considers the approval as unconditional with respect to these items.</p> <p>The LoA was issued by the Party's DNA and is valid for the proposed PoA. The LoAs do not refer to a specific version of the validation report.</p> <p>In summary, TÜV SÜD considers the § 39 – 42 of the VVS as met.</p>	

3.3 Modalities of Communications

TÜV SÜD used notarized documentation (IRL #41) to perform due diligence on the Modalities of Communication (MoC) statement (IRL #41). The notarized documentation (IRL #41) confirms the corporate identity of all project participants and focal points included in the MoC statement, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories.

TÜV SÜD confirms that the MoC statement complies with all relevant forms and requirements as

- the latest version of the form “Modalities of Communication statement” (F-CDM-MOC) has been used
- the information required as per the F-CDM-MOC, including its annex 1, is correctly completed
- the project participant’s authorized signatories signing the F-CDM-MOC correspond to the project participant’s authorized signatories included in F-CDM-MOC, annex 1

Include any other mean of due diligence of MoC if the step above is not used

3.4 Design Documents

The PoA-DD and the CPA-DDs are in compliance with the relevant forms and guidance as provided by UNFCCC. The most recent versions of the PoA-DD and CPA-DD forms were used. It can be further confirmed that the two parts of the PoA-DD including the first part (i.e. PoA) and the second part (i.e. generic CPA) have been filled correctly. There is one generic CPAs reflecting the scenario for Solar PV technology as per eligibility criteria validated from the PoA (for more details please refer to section 3.6.8 & 3.6.9 of this report).

TÜV SÜD considers that the guidelines for the completion of the PoA documents in their most recent version have been followed. Furthermore, TÜV SÜD confirms that the PoA-DD and the CPADDs (generic and specific) are in compliance with relevant forms and guidance, hence the requirement of VVS § 62 are fulfilled.

3.5 Application of the selected baseline and monitoring methodology

3.5.1 Applicability of the selected baseline and monitoring methodology

Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology has been demonstrated.

The validation team assessed by checking the UNFCCC webpage that the baseline and monitoring methodology selected by the project participants are the valid versions of those approved by the Board.

Applicability criteria from ACM 0002 version 12.3.0

This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated 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).

Information from DDs:

PoA-DD:

All of the sites under this PoA will be grid-connected PV facilities that will be Greenfield sites. No capacity additions or retrofits, etc. are to be expected. This applicability criterion will be assessed using the project’s description from the EIA or EID.

Specific CPA-DD:

La Tirana Solar will be a Greenfield plant. The site is located in Region I in the north of Chile, ap-

proximately 4km southwest of the township of La Tirana, Chile. GPS coordinates are provided in this CPA. The project will be a grid connected solar PV project that will inject electricity to the grid through a tap off to the existing line between Pozo Almonte and Tamarugal substation. Evidence for coordinates and interconnection point are in the project description submitted to the Environmental Service* and in the environmental resolution.

Assessment:

The validator compared the actual text of the applicable version of the methodology with the information stated in the PoA-DD & specific CPA-DD.

It has been validated that this applicability criterion would also be covered by eligibility criteria number 1 & 3 of PoA-DD. For any CPA under this PoA, this shall be validated using EIA or EID (Environmental Impact assessment or Environmental Impact declaration) approved by government of Chile. Further, it can also be validated using Energy Prediction Report by supplier.

For Specific CPA-DD, following evidence has been validated for this applicability criteria:

1. Project description submitted to government for approval, IRL #25, 26
2. GTD Interconnection Study, IRL #42

Hence it is confirmed by the local and sectoral knowledge of the assessment team that the content of this document is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.

Validation opinion:

The documentation content is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.

Applicability criteria from ACM 0002 version 12.3.0

The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;

Information from DDs:

PoA-DD

Any project activity under this PoA will be a solar PV power plant. This applicability criterion will be assessed using the project's description from the EIA or EID and with EPR from technology manufacturer.

Specific CPA-DD:

This CPA will be a solar power plant, as described in Section A.5. Additionally technical details of the solar plant can be found in the Technical Project Description submitted to the DIA.

Assessment:

The validator compared the actual text of the applicable version of the methodology with the information stated in the DDs.

It has been validated that this applicability criterion would also be covered by eligibility criteria number 1, 3 & 13 of PoA-DD. For any CPA under this PoA, this shall be validated using EIA or EID approved by government of Chile. Further, it can also be validated using Energy Prediction Report (EPR) by supplier.

* http://seia.sea.gob.cl/expediente/expedientesEvaluacion.php?modo=ficha&id_expediente=7095939

For Specific CPA-DD, following evidence has been validated for this applicability criteria:

1. Project description submitted to government for approval, IRL #25
2. GTD Interconnection Study, IRL #42
3. DIA approval provided by government, IRL #26
4. Onsite visit by DOE.

Hence it is confirmed by the local and sectoral knowledge of the assessment team that the content of this document is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.

Validation opinion:

The documentation content is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.

Applicability criteria from ACM 0002 version 12.3.0

In the case of capacity additions, retrofits or replacements (except for capacity addition projects for which the electricity generation of the existing power plant(s) or unit(s) is not affected): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity addition or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;

Information from DDs:

PoA-DD:

Not applicable as this PoA is only implementing CPAs that are Greenfield sites.

Specific CPA-DD:

Not applicable as this CPA is a Greenfield site. The GPS coordinates and satellite imagery show there is currently nothing on this site, which was also verified by the DOE in their site visit. Also verifiable through the project description submitted for DIA.

Assessment:

The validator compared the actual text of the applicable version of the methodology with the information stated in the DDs.

It has been validated that this applicability criterion would also be covered by eligibility criteria number 13 of PoA-DD. For any CPA under this PoA, this shall be validated using EIA or EID approved by government of Chile.

For Specific CPA-DD, following evidence has been validated for this applicability criteria:

1. Project description submitted to government for approval, IRL #25
2. DIA approval provided by government, IRL #26
3. Onsite visit by DOE.

Hence it is confirmed by the local and sectoral knowledge of the assessment team that the content of this document is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.

Validation opinion:

The documentation content is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.

Applicability criteria from ACM 0002 version 12.3.0

In the case of hydro power plants, one of the following conditions must apply:

- The project activity is implemented in an existing reservoir, with no change in the volume of

<p>reservoir; or</p> <ul style="list-style-type: none"> ○ 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/m²; or <p>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/m².</p>
<p>Information from DDs:</p> <p>PoA-DD:</p> <p>Not applicable as this PoA will not include hydropower plants.</p> <p>Specific CPA-DD:</p> <p>Not applicable as this CPA will not include hydropower. Verifiable through the project description submitted for DIA</p>
<p>Assessment:</p> <p>The validator compared the actual text of the applicable version of the methodology with the information stated in the DDs.</p> <p>It can be validated from eligibility criteria 3 that this applicability criterion is not applicable.</p> <p>Hence it is confirmed by the local and sectoral knowledge of the assessment team that the content of this document is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.</p>
<p>Validation opinion:</p> <p>The documentation content is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.</p>

<p>Applicability criteria from ACM 0002 version 12.3.0</p> <p>The methodology is not applicable to the following:</p> <ul style="list-style-type: none"> • Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; • Biomass fired power plants; • Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m².
<p>Information from DDs:</p> <p>Not applicable since this PoA will not include biomass, hydro plants or any switching from fossil fuels to renewable energy.</p> <p>Specific CPA-DD:</p> <p>Not applicable since this CPA will not include biomass, hydro plants or any switching from fossil fuels to renewable energy. Verifiable through the project description submitted for DIA.</p>
<p>Assessment:</p> <p>The validator compared the actual text of the applicable version of the methodology with the information stated in the DDs.</p> <p>It can be validated from eligibility criteria 3 that this applicability criterion is not applicable.</p> <p>Hence it is confirmed by the local and sectoral knowledge of the assessment team that the content of this document is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.</p>
<p>Validation opinion:</p>

The documentation content is correctly quoted and interpreted in the PoA-DD & specific CPA-DD

Applicability criteria from ACM 0002 version 12.3.0

In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.

Information from DDs:

PoA-DD

Not applicable as this PoA is only implementing CPAs that are Greenfield sites.

Assessment:

The validator compared the actual text of the applicable version of the methodology with the information stated in the DDs.

It has been validated that this applicability criterion would also be covered by eligibility criteria number 13 of PoA-DD. For any CPA under this PoA, this shall be validated using EIA or EID approved by government of Chile.

For Specific CPA-DD, following evidence has been validated for this applicability criteria:

1. Project description submitted to government for approval, IRL #25
2. DIA approval provided by government, IRL #26
3. Onsite visit by DOE.

Hence it is confirmed by the local and sectoral knowledge of the assessment team that the content of this document is correctly quoted and interpreted in the DDs.

Validation opinion:

The documentation content is correctly quoted and interpreted in the PoA-DD & specific CPA-DD.

TÜV SÜD confirms that the chosen baseline and monitoring methodology is applicable to the project activity.

3.5.2 Baseline scenario identification and description

The PoA-DD including the generic CPA-DDs as well as the specific CPA-DD define the following baseline scenario: The baseline scenario is the electricity delivered to the grid by the PoA (i.e. each CPA) that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources into the respective electricity grid.

The assessment team confirms that the procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied. This procedure is as follows (IRL #40):

“If the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.”

TÜV SÜD did following steps to assess the requirements for baseline identification:

- initial document review

- on-site visit
- view of information from similar projects and/or technologies

The sources referenced in the DDs have been quoted correctly. The information was verified against credible sources, such as the following:

- PoA-DD (IRL #44), clearly indicating that only new grid-connected solar PV plants are eligible under this PoA, and
- Applied methodology (ACM0002, Version 12.3.0, IRL 40), clearly indicating the baseline for this type of project activity.

TÜV SÜD has determined that no reasonable alternative scenario has been excluded.

Based on the validated assumptions used for project activity calculations, TÜV SÜD considers that the identified baseline scenario for the PoA is reasonable. Furthermore, the baseline scenario identified for the specific CPA is reasonable and in accordance with the PoA-DD.

Taking the definition of the baseline scenario into account, TÜV SÜD confirms that all relevant CDM requirements, including relevant sectoral policies and circumstances, have been identified correctly in the PoA-DD including the generic CPA-DDs as well as the specific CPA-DD. As a result, TÜV SÜD confirms the following statements:

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

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

3.5.3 Algorithms and/or formulae used to determine emission reductions

TÜV SÜD has assessed the calculations of project emissions, baseline emissions, leakage, and emission reductions. Corresponding calculations have been carried out based on calculation spreadsheets. The parameters and equations presented in the PDD, as well as other applicable documents, have been compared with the information and requirements presented in the methodology and respective tools. An equation comparison has been made to ensure consistency between all the formulae presented in the calculation files and in the PDD, methodology, and tools.

The estimate of the baseline emissions are considered correct as the calculations have been reproduced by the audit team with the attainment of the same results.

The assumptions and data used to determine the emission reductions are listed in the PDD and all the sources have been reviewed.

The grid emission factor is calculated based on the ex-ante calculation for both the operating margin and the build margin and is fixed for the entire length of the crediting period.

The following six steps have been validated for the calculation of emission factor as per "Tool to calculate the emission factor for an electricity system v.3.0.0"

Step 1: The electricity system of Chile has been divided as The Northern Interconnected System (SING) & central interconnection called SIC, this boundary has been validated from boundary defined by National grid in Chile (IRL #05).

Step 2: Off-grid power plants are excluded from the project electricity system, which is validated to be in line with the available options provided by the tool.

Step 3: For the purposes of SING grid, the alternative “(a) Simple OM” has been correctly chosen, since low-cost/must-run resources has been validated to be less than 50% of total grid generation in the average of the five most recent years. Further, PoA-DD has been validated to consider Simple adjusted OM for SIC grid. Besides, option “ex-ante” is chosen based on the data, which means that the EF is determined once at validation or CPA inclusion stage (hence OM shall be calculated for all CPAs during CPA inclusion and remain fixed for its crediting period, it was validated that this ensures CPAs use latest value for respective CPA during the time of inclusion), not requiring further recalculation during the crediting period. The assessment team confirms that this in line with the options provided by the tool for the OM determination.

Step-4:

For SING grid: Due to lack of data regarding net electricity generation of each power unit, Option B of the Tool has been validated to be chosen for Simple OM; also considering the renewable source as low-cost/ must-run power plant; and based on known fuel type and total fuel consumption of the project electricity system.

For SIC grid: The calculation choices mentioned in the PoA-DD has been validated to be in line with Para 51 of “Tool to calculate the emission factor for an electricity system v.3.0.0”, IRL #43.

Step-5: It has been validated that PoA-DD has chosen ex-ante approach form Build margin emission factor (option-1 under step-5 of “Tool to calculate the emission factor for an electricity system v.3.0.0”, IRL #43). Hence it would be validated at CPA level during registration/CPA inclusion.

Step-6: The EF_{CM} has been validated to have correct choices by using the Weighted Average CM (based on a 75/25 weighting as indicated by the applied emission factor tool, IRL #43).

The operating margin emission factor and the build margin emission factor has been calculated based on fossil fuel consumption data, electricity generation data for power plants/units, as well as the energy conversion efficiencies of power units, fuel specific emission factors and net calorific values sourced from the IPCC Guidelines & the grid’s transmission system operator (CDEC-SING with latest available data) (IRL #09, 21).

For specific CPA developed along with PoA, “PV Project in La Tirana, Chile”, ex-ante calculation of emission factor has been validated as follows:

Step-1: The CPA has been validated to be connected to SING grid (IRL #44, 05)

Step-2: Off-grid power plants are excluded from the project electricity system, which is validated to be in line with the available options provided by the tool, IRL #43.

Step-3 & Step-4: As validated above, for SING grid, Simple operating margin has been chosen by CPA implementer, detailed calculation of emission factor has been validated using emission factor spreadsheet, IRL #19, 09, 14.

- Net electricity generated and delivered to the grid by all power sources serving the system: Generation data for last three years (2009, 2010 & 2011) has been validated from SING grid operator, CEDEC SING (IRL #09, 14).
http://cdec2.cdec-sing.cl/pls/portal/CDEC.MENU_GENE_ENERGIA.SHOW)
- Amount of fossil fuel type i consumed in the project electricity system in year y : Fossil fuel consumed by grid connected power plants have been validated for last year’s (2009, 2010 & 2011) using data from CEDEC SING (IRL #09, 14, 19)
http://cdec2.cdec-sing.cl/pls/portal/CDEC.MENU_COSU_TEORICO_COMB.show)
- Net calorific value (energy content) of fossil fuel type i in three years prior to project: Net calorific value for fossil fuel used has been validated from National default values provided by National Energy Balance, IRL #45.

- CO₂ emission factor of fossil fuel type *i* three years prior to project: Emission factor of respective fossil fuel consumed has been validated from lower limit of default IPCC factor, IRL #46.

Step-5: Calculation of BM has been validated by comparing the latest 5 plants & plants contributing to 20%, it has been validated that SET5-units is larger than SET20% for SING grid (IRL #09,14), hence BM has been validated to be calculated from data from SET5 units, IRL #19.

Step-6: Combined margin has been validated to be calculated using weightage as 0.75 for operating margin and 0.25 for build margin. The validated figure for OM, BM & CM is indicated below:

	Validated figure (tCO ₂ /MWh)	IRL
Simple Operating Margin	0.874	19, 43
Build margin	0.802	19, 43
Combined margin	0.856	19, 43

The following sources of information were used for crosscheck the information contained in the PDD:

Assumption / Data / References used for estimating the emission reductions in the PDD	Value applied in specific CPA-DD	Information validated using	Conclusion
EG _{facility,y} , Quantity of net electricity generation supplied by the solar project plant to the grid in year y (MWh)	96,783 MWh (for first year energy production) Average is 90,340 MWh, (based on a yearly module degradation of 0.7% per year).	Energy generation from the power plant has been validated from 'Energy Prediction Report (EPR) for La Tirana, Chile' by a contacted supplier, First Solar. IRL #06, 24.	As per the baseline methodology ACM0002, it can be confirmed that the equation is applicable for Greenfield renewable energy power plants. The applied values for the specific CPA-DD were confirmed via IRL 06, 24, hence deemed to be reasonable.
EF _{grid,CM,y} , Combined margin emission factor	0.856 tCO ₂ e/MWh (fixed ex-ante); see descriptions above).	The emission factor applied is the one that is calculated for the specific electricity grid that the CPA is connected to. The EF tool includes six steps to be applied to determine the combined margin as validated above, IRL #19.	It can be confirmed that the grid emission factor (EF _{grid, CM,y}) and all its basic calculations are in conformity with the requirements stated in the "Tool to calculate the emission factor for an electricity system" (Version 3.0), IRL #19, 43.

TÜV SÜD confirms the following statements

- (a) All assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
- (c) All values used in the PDD are considered reasonable in the context of the proposed project activity;
- (d) The baseline methodology and corresponding tool(s) have been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD;
- (f) Any estimates for monitored data or parameter are reasonable for estimating the emission reductions in the PDD
- (g) Different options for equations and parameters are selected appropriately.
- (h) The data and parameters fixed ex-ante are conservative and appropriate.

3.6 Programme of activities / component project activities

3.6.1 Coordinating/managing entity and participants in a PoA

A clear and transparent description of the operational and management arrangement has been established by C-Quest Capital LLC. and stated in the PoA-DD. This has been validated during the site audit and various interviews and could be confirmed based on the following underlying documentation:

1. CME Manual (IRL #16), and
2. PoA-DD (IRL #44)

After thorough review of the management system and the associated documents, the assessment team confirms that the system includes a clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs. Furthermore, the system includes clear records of arrangements for training and capacity development for personnel as well as a transparent procedure for technical review of inclusion of any CPAs. A procedure to avoid double-counting is also included in the management system and deemed to be fully sufficient: The CPA implementer shall enter into a contractual agreement (IRL #48) with C-Quest Capital confirming that the CPA has not and will not be registered as a CDM project activity or as CPA of another PoA. The agreement further states that the implementing entity is aware that the CPA will be subscribed to the present PoA and the implementing entity cedes its rights to claim and own emission reductions under the CDM to the managing entity of the present PoA. Such an agreement is already signed for the first CPA (i.e. PV Project in La Tirana, Chile, see IRL #48).

Furthermore, it can be confirmed that there is a clear and transparent record keeping system and documentation control process established for each CPA under the PoA: each CPA will be kept in the record keeping system and each CPA under the PoA will identify each solar PV plant under a serial numbering system to uniquely identify its location in addition to its technical details, address and GPS coordinates. In addition, the management system includes measures for continuous improvement.

The record keeping system for the specific CPA is strictly following the procedures of the management system, which was confirmed during the on-site visit (IRL #16).

In summary, the assessment team confirms that the management system allows the CME to easily check the features of any potential CPAs and ensures that each CPA meets all requirements and eligibility criteria before inclusion in the PoA. As a result, it can be confirmed that the requirements of the “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” with respect to the management system are fully met (see also IRL #16 and VVS §186).

3.6.2 CPA Design Document

The proposed specific CPA was assessed by the validation team and it can be confirmed that it complies with the eligibility criteria specified in the PoA-DD. Please refer to section 3.6.9 below for a detailed assessment of the compliance with the eligibility criteria.

The means of validation of the specific CPA include a desk review as well follow-up interviews and a site visit. Hence, the requirements of §187 and §188 are considered to be fully met.

3.6.3 Description of a PoA/CPA

The following description of the programme as per PoA-DD has been successfully validated: The programme involves the promotion and development of grid-connected new solar PV plants in Chile. As per the applied methodology, the following conditions shall be confirmed for all CPAs under this PoA:

- The renewable power generation technology is PV solar power plant/unit; and
- The project activity type is exclusively a Greenfield; and
- The legal and regulatory framework is the same for all CPAs (since there is only one country, i.e. Chile).

The specific CPA involves the construction and operation of a new 30.24 MW PV plant that would be connected to the Northern Interconnected grid System (SING), IRL #25, 26. Hence, the SING is validated to be the boundary of the specific CPA, which is located within the geographical boundary of the PoA.

The information presented in the PoA-DD on the programme description has been assessed for accuracy and completeness using standard auditing techniques including:

(a) Document review including

- A review of data and information; (IRL #44)
- Cross checks between information provided in the PoA-DD, CPA-DD and information from sources other than those used including the DOE's sectoral or local expertise. In addition, independent background investigations were performed.

(b) Follow-up actions including:

- Interviews with relevant stakeholders in the host country, personnel with knowledge of the PoA/CPA design and implementation; (IRL #31)
- Cross checks between information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted.

(c) Reference to available information relating to projects or technologies similar to the proposed PoA under validation;

It is TÜV SÜD's opinion that the project description, as included in the PoA-DD including the generic CPA-DDs and the specific CPA-DD, is accurate and complete; and it provides a correct understanding of the proposed programme and the specific CPA.

After assessment of the PoA-DD including the generic CPA-DDs and the specific CPA-DD that was submitted to TÜV SÜD by the CME, the assessment team confirms the framework developed for the implementation of the PoA, and defining a CPA under the PoA as per VVS §189. For a more detailed assessment of the framework including CME and participants, physical/geographical boundary, technology/measures and public funding information please refer to the sections below.

3.6.4 Application of Multiple Methodologies

Not applicable as PoA applied only one methodology, ACM0002 version 12.3.0.

3.6.5 Boundary for the PoA in terms of geographical area

The boundary of the PoA within which all CPAs are included, was assessed considering information gathered from the physical site inspection, interviews, and secondary evidence received on the design of the PoA.

Aspect of boundary	Onsite observation	Relevant documents for specific CPA
Electricity exported to Grid (those regions of Chile covered under the PoA – which is SING & SIC grid, Northern and central grid respectively)	During the on-site visit and based on the local and sectoral expertise of the assessment team, it can be confirmed that the boundary of the PoA within all CPAs are included are those regions of Chile covered by the electricity grid of Chile	<ul style="list-style-type: none"> • DIA Project description, IRL #25. • Approval by DIA for project activity, IRL #26. • GTD Interconnection Study, IRL #42.

After thorough assessment of the PoA-DD and the underlying documentation (IRL #44), it can be confirmed that the project participants in establishing the boundary of the PoA have taken into consideration all applicable national and/or sectoral policies and regulations within that chosen boundary.

Therefore, the audit team confirms that the identified boundary, the selected sources, and gases as documented in the PoA-DD are justified for the proposed PoA (including the generic and specific CPA) and are fully in line with the requirements set by the applied methodology and the PoA-DD as per VVS §87. Furthermore, it can be confirmed that the boundary of the specific CPA is correctly identified and in line with the underlying requirements. It could also be confirmed that the sources and gases included in the specific CPA boundary are in accordance with the above.

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

Hence, TÜV SÜD confirms that the boundary for the PoA in terms of geographical area is accurately selected and complete in order to comply with the VVS (§§191-192).

3.6.6 Start Date of a PoA / CPA -

The start date of the PoA is the 20/04/2012, the date on which PoA documents were uploaded for Global Stakeholder process (IRL #00), which is validated to be in line with para 193 of VVS.

In addition the assessment team further confirms that the start date of the CPA is not prior to the commencement of the validation of the PoA. The start date of the specific CPA is validated to be 03/03/2013, on which the PPA would be signed as validated from the project timeline & schedule, IRL #17. Hence, it can be confirmed that the start date of the specific CPA is not prior to the date the CDM-PoA-DD was first published for global stakeholder consultation (i.e. 20/04/2012). As a result, it can be confirmed that the requirements of VVS §193 are met

3.6.7 Prior Consideration of the CDM

According to VVS §194, the demonstration and assessment of prior consideration of the CDM does not apply to PoAs.

3.6.8 Demonstration of additionality of the PoA as a whole

After thorough review of the PoA-DD and the underlying documents (IRL #44), it can be confirmed that the additionality was demonstrated by clearly establishing that in the absence of CDM, none of the CPAs would occur. Since the PoA consists of one or more large scale projects as CPAs, the eligibility criteria for the demonstration of additionality was based on the “Tool for the demonstration and assessment of additionality” (Version 07, IRL #49), as specified in the additionality section of the applied methodology. A detailed assessment of the application of the four steps of the additionality tool is provided in the subsections of 3.6.8 below. Please refer to section 3.6.9 below for a detailed assessment of the additionality-related eligibility criteria set in the PoA-DD. As a result, it can be confirmed that the requirements of the “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” with respect to the demonstration of additionality are fully met (see also IRL 48 and VVS §195).

3.6.8.1 Identifications of alternatives

As already indicated above (see section 3.5.2), the baseline scenario for new Solar PV plants is prescribed in the applied methodology. Hence, as per VVS §115, no further analysis is required. As a result, it can be confirmed that the list of alternative (i.e. the baseline scenario which equals the pre-project scenario) is credible and complete.

3.6.8.2 Investment Analysis

The framework for additionality provided in the PoA-DD has been validated to ensure that none of the implemented CPA would occur in the absence of CDM (para 7 of EB 70 annex 5)

As per para 10 of EB 70 annex 5, additionality framework for the proposed PoA has been validated to be derived from relevant additionality requirement of applied methodology, ACM 0002 version 12.3.0, which in turn refers to 'Tool for the demonstration and assessment of additionality', IRL #49.

Eligibility criteria validated below in section 3.6.9 provides CPA a framework to perform investment analysis at CPA level to ensure that none of the CPA would occur in absence of CDM.

Detailed assessment of investment analysis has been indicated below:

Item	Unit	Acceptable & validated Data Source for CPAs under the proposed PoA (validation of framework for additionality of CPAs)	Validated figures for specific CPA
Installed Capacity	MW	It has been validated that CPAs can use installed capacity from Energy Prediction Report (EPR) provided by supplier of equipment. Since it is provided by supplier of equipment, it is deemed to be acceptable.	Specific CPA, "PV Project in La Tirana, Chile", propose to install 30.25 MW solar PV plant, it has been validated from the following sources: 1. EPR from First Solar Inc., IRL #06, 24, contacted supplier for project activity. 2. Further this parameter is also cross-checked from government approved DIA, IRL #26
Plant Factor or Energy production	% or GWh/yr	It has been validated that CPAs can use plant factor, which is calculated from expected generation from Energy Prediction Report (EPR) provided by supplier of equipment. Since it is provided by supplier of equipment, it is deemed to be acceptable.	Expected generation from specific CPA has been validated from Energy Prediction report by First Solar Inc, IRL #06, 24, as follows: For first year: 96.783 GWh Further degradation rate of 0.70% has also been validated for following years of energy production.
Operation Life	Years	It has been validated that CPAs can use operational lifetime from Energy Prediction Report (EPR) provided by supplier of equipment. Since it is provided by supplier of equipment, it is deemed to be acceptable.	Lifetime of 25 yrs for specific CPA has been validated using EPR, IRL #06, 24. Further, it has also been cross-checked with 25 yr limited Power output warranty proposed by the prospective provider, Solar Chile, IRL #07.
Electricity price	USD/GWh	It has been validated that CPAs can use the following source for electricity price: 1. Hourly spot prices for the latest year (available at CDEC SING or CDEC SIC), since the data is	Electricity price for the project activity has been validated from: 1. CEDEC SING online database of hourly spot value for 2011, IRL #10. 2. Profile of energy generation of

		<p>sourced from authorized grid operator, it is deemed to be acceptable.</p> <p>2. Power Purchase agreement (PPA): If CPA implementer has signed the PPA for the project activity, the electricity price can be validated from PPA.</p>	<p>CPA has been validated from energy prediction report which provides expected hourly generation by CPA (IRL #24). Respective hourly generation & hourly spot price for 2011 has been used to calculate the electricity price for CPA, which is validated to be 106.5 US\$/MWh (IRL #20).</p> <p>Considering energy generation profile of CPA is validated as a precise measure as hourly price is different during every hour and is higher during day time, which is more applicable to solar PV plant, further it is validated that 106.5 US\$/MWh higher compared with yearly average hourly price which is 96 US\$/MWh. Hence considering energy generation profile of CPA is validated to be more precise and accurate.</p> <p>Further as per local legal regulation, renewable projects are validated to be entitled for 10 US\$/MWh incentive (IRL #47), hence it is added to the market spot price validated above.</p> <p>The final validated electricity price for specific CPA is 116.5 US\$/MWh, IRL #20.</p>
Investment cost & O&M cost	USD & USD/kwac-year	<p>Investment cost for any CPA under this PoA can be validated from a confirmation letter or quotation provided by EPC contractor (The Capex includes construction costs of the plant and the line as well as development costs)).</p> <p>Since it is provided by the equipment provider, it is deemed to be reliable and acceptable.</p>	<p>For the specific CPA, the investment cost and O&M cost has been sourced from prospective supplier of the project activity, detailed investment cost along with O&M cost has been submitted by First Solar, EPC contractor, IRL #39.</p> <p>Further, this investment cost is cross-checked with an independent study from Bloomberg on Renewable in Chile that shows the same capex cost (US\$/watt AC) for PV in 2012 (IRL #11). Hence it is validated as appropriate and reasonable value.</p>
Benchmark	%	<p>10% (for pre-tax project IRR)</p> <p>The applied benchmark has been validated from a publication by the Chilean Ministry (IRL #23).</p>	<p>10% (for pre-tax project IRR)</p> <p>The applied benchmark has been validated from a publication by the Chilean Ministry (IRL 23). Based on</p>

		<p>Based on its local and sectoral expertise, TÜV SÜD confirms that the applied benchmark is appropriate and applicable to the program.</p> <p>The chosen benchmark is suitable to be compared with the selected type of IRR, which is line with EB 62, annex 5, §12.</p>	<p>its local and sectoral expertise, TÜV SÜD confirms that the applied benchmark is appropriate and applicable to the program.</p> <p>The chosen benchmark is suitable to be compared with the selected type of IRR, which is line with EB 62, annex 5, §12.</p>
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The proposed framework under eligibility criteria 8 for investment analysis has been successfully validated as:

1. PoA proposes a framework for investment analysis which has been validated to have fixed number of parameters for investment analysis of a typical CPA under this PoA.
2. IRR calculation spreadsheet template and procedure for a typical CPA has been submitted to DOE and has been validated to be in line with 'Guidelines on the assessment of investment analysis', EB 62 annex 5 (IRL #20, 45).
3. Typical source for respective input parameters has been proposed by PoA which has been validated to be appropriate.

In summary, the IRR calculation and the underlying model is validated to be traceable and correct and also in line with the latest requirements of the Guidelines on the assessment of the investment analysis (EB62, Annex 5; IRL 45).

It is concluded from above that all the input parameters are applicable and valid for the proposed PoA and its CPAs. In addition, by applying due diligence, as well as based on local and sectoral expertise, TÜV SÜD was able to confirm that the input parameters used in the financial analysis are reasonable and adequately represent the current economic situation of the program, and have been applied consistently applied in all calculations of the underlying model.

For specific CPA, pre-tax project IRR has been validated to be 8.2%, using the input values which has been validated as indicated above. Further, it has been validated that specific CPA does not have any real action so far and according to validated timeline, its start date would be 03/03/2013, hence the validated investment analysis has been carried out using latest available input values for all parameters at the time of validation (IRL #17).

Furthermore, sensitivity analysis has been performed by changing the following input values:

1. Energy Price
2. CAPEX
3. OPEX
4. Output

The best case scenario in the sensitivity analysis can only 9.7% (when energy price is increased by 10%) which is validated to be still less than benchmark.

3.6.8.3 Barrier analysis

As per PoA-DD, all CPAs would have to conduct an investment analysis as per 3.6.8.2 above for additionality.

However, barrier analysis has also been validated at PoA level to further substantiate the additionality in addition to investment analysis at CPA level.

Following barriers have been validated at the time of registration for Solar PV in Chile:

1. Prevailing practice barrier: It has been validated from ACERA - Asociación Chilena de Energías Renovables A.G. (Chilean Association of Renewable Energy AG) that no grid connected solar PV plant is commissioned or under construction, IRL #03. Further it has been validated from the grid

operator, SING & SIC grid, IRL #14. From the prevailing practice barrier it has been validated that the use of this technology in the region is very limited and is not proven. Hence this barrier is deemed to be acceptable.

2. Access to finance: It has been validated that project activities using this technology faces barrier to raise capital from investors, this has been validated from a letter by a potential investor which indicates that they would be interested only if CDM revenues are realized for the project activity (IRL #12).

Further, levelized cost of energy generation of solar PV plant has been validated above 150 US\$/MWh in Chile as per report by Bloomberg (IRL#11), whereas the yearly average spot market price has been validated to be 96 US\$/MWh (IRL #10). Hence it has been successfully validated that Solar PV plants would face barriers because of access to ready finance for the project activity.

Hence it could be validated that in general installation of Solar PV plants in Chile would face validated barriers above. However, to prove additionality during CPA inclusion, each CPA would have to perform investment analysis as per eligibility criteria number 08 of the PoA-DD.

3.6.8.4 Common practice analysis

The common practice analysis was conducted in the PoA-DD according to the requirements of the applied "Tool for the demonstration and assessment of additionality", version 7.0.

Analysis of common practice has been validated as per 'Guidelines on common practice', version 2.0. Please find below the detailed validation of each step:

Identification of geographical area: It has been validated that by default the entire host country is considered as the geographical boundary.

Step-1: Any CPA implementer under this PoA shall identify plants with a range of +/-50% of the design capacity as per para 5 of EB 69 annex-8.

Step-2: All the identified plants in CPA shall be validated to be grid connected solar PV plants which must have started commercial operation before the start date or GSP of the CPA.

Step-3: Within the projects validated to be in Step 2, those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation will be counted as N_{all} .

Step-4: Within similar projects validated in Step 3, CPA implementer shall identify those that apply technologies that are different to the technology applied in the proposed project activity – which is denoted as N_{diff} .

Step-5: factor F shall be validated ($1 - (N_{diff}/N_{all})$) representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

The proposed CPA shall be deemed as a common practice if factor F is greater than 0.2 and $N_{all} - N_{diff}$ is greater than 3.

For specific CPA, it has been successfully validated that no other grid connected solar PV plant has been commissioned or under construction at the time of validation (IRL #04, 14).

This validated approach of common practice analysis shall be performed for all CPAs under this PoA as per eligibility criteria 8 of the PoA-DD.

3.6.9 Eligibility criteria for inclusion of a CPA in the PoA

All the eligibility criteria required for the inclusion of the CPA under the PoA have been addressed in the PoA-DD and will be assessed for each potential CPA through the procedures described in the PoA Management System (PoA MS, IRL #16). The stated confirmation against each eligibility criteria has been checked and found acceptable. It can be confirmed that the criteria are verifiable, sufficiently objective as well as comprehensive. Please refer to the following sections for a detailed as-

assessment of the individual criteria as per the “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (further referred to as the “PoA standard”).

PoA Standard requirement	Assessment and Conclusion (PoA-DD and generic CPA-DD)	Assessment and Conclusion (specific CPA-DD)
<p>The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA.</p>	<p>The criterion clearly describes that for any CPA, it shall be demonstrated that all units are within the geographical boundaries of the country that issued an approval for the PoA. The PoA-DD clearly indicates the geographic boundary of any CPA that shall be within the host country (i.e. Chile) which is consistent with the geographic boundary of the PoA. Hence, it can be confirmed that the requirement of the PoA standard with respect to this criterion is met (i.e. §14a).</p>	<p>The proposed specific CPA is located near the township of La Tirana, which is in Chile, i.e. within the geographical boundary (IRL 05, 44). In addition, this has also been confirmed during the onsite visit.</p>
<p>Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo).</p>	<p>The CME addresses this criterion by using unique identification of each PV plant via the exact geographic location. The assessment team considers that this approach is deemed as reasonable to address and avoid double-counting. Hence, it can be confirmed that the requirement of the PoA standard with respect to this criterion is met (i.e. §14a).</p>	<p>The specific coordinates of the CPA have been presented in the CPADD (IRL #44) and could be confirmed during on the on-site visit. Further the exact GPS coordinates have also been validated from government approved DIA (IRL #25). The assessment team confirms after thorough assessment of the UNFCCC website, that no other solar PV power plant is registered as a CDM project or included in another PoA in the same location.</p>
<p>The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/ certifications.</p>	<p>The technology/measure is clearly defined as a Greenfield grid connected solar PV power plant that generates electricity from solar energy (i.e. renewable). The assessment team confirms that this is also in line with the applicability criteria of the applied methodology. In addition, the compliance with testing/certifications is to be demonstrated and substantiated by the CPA implementer. Hence, it can be confirmed that the requirement of the PoA standard with respect to this criterion is met (i.e. §14c).</p>	<p>The proposed CPA is a Greenfield grid-connected solar photovoltaic power plant, which generates electricity from solar energy (IRL #25, 24). In addition the CPA implementer has provided evidence that the used equipment in the proposed CPA complies with national/ international standards or certifications. Chosen supplier for specific CPA has been validated to be certified for performance and safety according to IEC 61646, IEC 61730, and IEC 61701 (salt mist corrosion) Regionally certified to UL (North America), CEC (Australia), Golden Sun (China), and MCS (UK) stand-</p>

PoA Standard requirement	Assessment and Conclusion (PoA-DD and generic CPA-DD)	Assessment and Conclusion (specific CPA-DD)
		ards. Manufacturing certified to ISO 9001:2008 (quality), ISO 14001:2004 (environmental) and OHSAS 18001:2007 (occupational, health and safety) standards. (IRL #35, 36, 37, 38).
Conditions to check the start date of the CPA through documentary evidence.	The start date of any CPA is based on the date of the first implementation, construction or real case. The start date of each CPA shall be demonstrated and substantiated by the CPA implementer. Further, this criterion shall also be used by the DOE & CME to ensure that a CPA is only eligible if its start date is after the starting date of the PoA. Hence, it can be confirmed that the requirement of the PoA standard with respect to this criterion is met (i.e. §14d).	Start date of the specific CPA has been validated to be 03/03/2013, which is expected date on which Power Purchase agreement for the project activity would be signed. This has been validated from the detailed project timeline submitted to DOE for validation (IRL #17). Hence this criteria is deemed to be fulfilled.
Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs.	After assessment of this criterion, the assessment team confirms that it is fully in line with the applied methodology, i.e. any CPA shall install a new (i.e. Greenfield) power plant. Applicability of the applied methodology has also been validated to be covered by eligibility criteria number 1, 2, 3, 6 & 13 of the PoA-DD. For a detailed assessment of the applicability, please refer to section 3.5.1 above. As a result, it can be confirmed that the requirement of the PoA standard with respect to this criterion is met (i.e. §14e).	The proposed CPA is a Greenfield grid-connected solar photovoltaic power plant, which generates electricity from solar energy. This has been validated from the following documents: 1. EPR, IRL #06, 24 2. DIA, IRL #25 3. Interconnection analysis, IRL #42 4. Onsite visit 5. Land purchase option, IRL #27 Hence it is deemed appropriate and this criteria is validated to be fulfilled.
The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality.	The additionality based eligibility criterion is derived from the additionality tool (IRL #49). As per derived eligibility criteria (eligibility criteria number 8 of PoA-DD), all CPAs under this PoA shall be validated with following steps: 1. Investment analysis: Pre-tax project IRR shall be calculated and compared against a benchmark as	As per eligibility criteria 8 of PoA-DD, following steps have been validated: 1. Investment analysis: Detailed calculation of pre-tax project IRR has been validated (IRL #20), which is further checked to be less than validated benchmark (IRL #23). Detailed validation of input parameters and calculation has been presented in section 3.6.2

PoA Standard requirement	Assessment and Conclusion (PoA-DD and generic CPA-DD)	Assessment and Conclusion (specific CPA-DD)
	<p>validated in section 3.6.2 above. The proposed framework under eligibility criteria 8 for investment analysis has been successfully validated as:</p> <p>a. PoA proposes a framework for investment analysis which has been validated to have fixed number of parameters for investment analysis of a typical CPA under this PoA.</p> <p>b. IRR calculation spreadsheet template and procedure for a typical CPA has been submitted to DOE and has been validated to be in line with 'Guidelines on the assessment of investment analysis', EB 62 annex 5 (IRL #20, 45).</p> <p>c. Typical source for respective input parameters has been proposed by PoA which has been validated to be appropriate.</p> <p>In summary, the IRR calculation and the underlying model is validated to be traceable and correct and also in line with the latest requirements of the Guidelines on the assessment of the investment analysis (EB62, Annex 5; IRL 45).</p> <p>2. Common practice analysis: a typical CPA under this PoA shall perform a common practice analysis as validated in section 3.6.8.4 above.</p> <p>As a result, it can be confirmed that the requirement of the PoA standard with respect to this criterion is met (i.e. §14f).</p> <p>It can be further confirmed that this approach regarding the demonstration of additionality is transparently & correctly described in generic CPA-DD that are included in the PoA-DD.</p>	<p>above.</p> <p>2. Common practice analysis: it has been successfully validated that no other grid connected solar PV plant has been commissioned or under construction at the time of validation (IRL #03, 14).</p> <p>Hence it has been successfully validated that this eligibility criteria is fulfilled.</p>
The PoA-specific requirements stipulated by the CME including any conditions related	The local stakeholder consultation and the environmental impact analysis are demonstrated on CPA level as specified in section C and	A local stakeholder consultation has been performed for the proposed CPA, which can be confirmed with through the in depth as-

PoA Standard requirement	Assessment and Conclusion (PoA-DD and generic CPA-DD)	Assessment and Conclusion (specific CPA-DD)
to undertaking local stakeholder consultations and environmental impact analysis.	<p>D of the PoA-DD.</p> <p>The procedure for the local stakeholder consultation are clearly presented in the management system (IRL #16), and deemed to be in line with the underlying requirements as well as fully appropriate.</p> <p>Regarding the environmental impact analysis, it is confirmed to be the CPA implementer's duty to provide proof of compliance with the Chilean environmental regulations for each proposed CPA. Further, it has also been confirmed that environmental approval by Chilean government for each project shall also be validated.</p> <p>As a result, it can be confirmed that the requirement of the PoA standard with respect to this criterion is met (i.e. §14g).</p>	<p>assessment of section C of the CPADD (IRL #28, 29, 30, 31, 32, 44).</p> <p>In addition several interviews with relevant authorities have been conducted during the on-site visit, who confirmed the appropriateness of the PPs approach.</p> <p>Please also refer for a detailed discussion to section 3.6.15.</p> <p>In addition the proposed CPA is in compliance with Chile's environmental regulations, which can be confirmed with the government approval, IRL #26.</p> <p>For a detailed discussion, please refer to section 3.6.14.</p> <p>In conclusion the assessment team confirms the fulfillment of this eligibility criterion.</p>
Conditions to provide an affirmation that funding from Annex I parties, if any, do not result in a diversion of official development assistance.	<p>In order to fulfill this criterion, the CPA implementer is required to provide the required affirmation.</p> <p>The assessment team confirms that this criterion is transparently included in the sworn declaration template (IRL #22) that needs to be signed by each CPA implementer.</p> <p>As a result, it can be confirmed that the requirement of the PoA standard with respect to this criterion is met (i.e. §14h).</p>	<p>The CPA implementer has provided to the assessment team the affirmation that funding from Annex 1 parties, does not result in a diversion of official development assistance.</p> <p>The sworn declaration has been reviewed and can be accepted by the assessment team. (IRL #22).</p>
Where applicable, target group (e.g. domestic/ commercial/ industrial, rural/ urban, grid-connected/ off-grid) and distribution mechanisms (e.g. direct installation).	<p>The target group is correctly defined as the grid (i.e. any CPA shall be grid-connected, which is also covered by the applicability criterion listed above).</p> <p>As a result, it can be confirmed that requirement of the PoA standard with respect to this criterion is met (i.e. §14i).</p>	<p>The proposed CPA is a Greenfield grid-connected solar photovoltaic power plant, which generates electricity from solar energy and has an installed capacity of 30.24 MW (IRL #06, 24).</p>
Where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guide-lines/standard	<p>Not applicable, no sampling is and will be applied, i.e. the parameters will be monitored as per the applied methodology.</p>	<p>Not applicable</p>

PoA Standard requirement	Assessment and Conclusion (PoA-DD and generic CPA-DD)	Assessment and Conclusion (specific CPA-DD)
from the Board pertaining to sampling and surveys;		
Where applicable, the conditions that ensure that every CPA in aggregate meets the small-scale or micro scale threshold criteria and remains within those thresholds throughout the crediting period of the CPA;	Not applicable, since the PoA applies a large-scale methodology.	Not applicable
Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or micro-scale project categories.	Not applicable, since the PoA applies a large-scale methodology.	Not applicable
Others	The CPA implementer shall provide documentary evidence indicating that the DNA has been informed of a new CPA of the PoA. The assessment team confirms that this criterion can be transparently validated using online DNA website.	LoA for the PoA has been submitted and validated which indicates that specific CPA-DD was also submitted for LoA approval (IRL#18). Further DNA was also interviewed during the onsite visit and it can be confirmed that DNA is informed for the project activity.

The managing entity employs clear and unambiguous criteria for the inclusion of the CPA. The eligibility criteria stated in the PoA-DD are verifiable with regards to the applicability of the applied methodology and EB 70 annex 5. Furthermore, the DOE confirms that the eligibility criteria are sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA.

The eligibility criteria can be checked at the CPA level by the managing entity and can be confirmed by the DOE during inclusion.

Hence, TÜV SÜD considers that the eligibility criteria for inclusion of CPA in the PoA is demonstrated accurately in order to comply with the VVS §196.

3.6.10 Crediting period of a PoA/CPA

The assessment team confirms that the length of the PoA is 28 years; hence it is in line with VVS §197.

3.6.11 Monitoring plan for a PoA

The monitoring of electricity supplied to the grid will be carried out per each CPA. Primary data will be stored by the implementing entities, and the managing entity will store the data in an electronic database. Furthermore, the set-up of the monitoring plan and the underlying system (i.e. CME Man-

ual, IRL #16) allows the exact determination of the status of each CPA with respect to its verification and CER issuance, monitoring periods, etc. This system to identify the status of verification of each CPA has also been clearly indicated in the generic CPA-DDs and the underlying documents (IRL # 44). The monitoring process and the verification status of each CPA will be done by CME.

The project participants have opted for a verification method that does not use sampling of CPAs by the verifying DOE, and each CPA is verified by the verifying DOE to ensure that no double accounting occurs and that the status of verification can be determined at any time for each CPA.

As mentioned above, the proposed PoA does not utilize any sampling for the determination of parameter values for the calculation of the emission reductions. As a result, TÜV SÜD confirms that no sampling plan is required as per the sampling standard (EB 65, Annex 2).

The operational and management structure has been clearly described and is in compliance with the envisioned situation. The responsibilities and institutional arrangements for data collection and archiving have been clearly provided. The information provided in the PoA-DD could be confirmed based on the on-site interviews and also through the submitted documentary evidence – management system (IRL #16).

Requirements of EB 70 annex-5 for management system have been validated as follows:

Requirements of para 19 of 'Standard: Demonstration of additionality, development of eligibility criteria and application of multiple methodologies for PoAs (version 02.1)'	Validation comments	Validation conclusion
A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies;	It has been validated that CME's organization structure consists of: 1. PoA Manager 2. O&M Supervisor 3. Monitoring supervisor 4. Administrative officer Detailed roles and responsibilities and procedure for competency assessment have been successfully validated from CME Manual (IRL #16). Furthermore, it was validated that CME shall perform a training needs analysis to develop an annual training plan to meet the competency requirement mentioned in CME Manual (IRL #16).	It has been successfully validated that the proposed management system by CME meets the requirement 19(a) of EB 70 annex 05.
Records of arrangements for training and capacity development for personnel	It has been validated that O&M supervisor is responsible for maintaining records. Detailed procedure for records management and capacity development has been validated from CME Manual (IRL #16).	It has been successfully validated that the proposed management system by CME meets the requirement 19(b) of EB 70 annex 05.
A procedure for technical review of inclusion of CPAs;	Detailed procedure for technical review of inclusion of CPA, derived from validated eligibility above, has been checked and	It has been successfully validated that the proposed management system by CME meets the require-

	validated from CME Manual (IRL #16).	ment 19(c) of EB 70 annex 05.
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);	CME shall ensure avoidance of double counting using validated eligibility criteria number 5 of PoA-DD. Detailed steps and procedure for assessment has been validated using CME Manual (IRL #16).	It has been successfully validated that the proposed management system by CME meets the requirement 19(d) of EB 70 annex 05.
Records and documentation control process for each CPA under the PoA;	It has been validated from CME manual that CME shall maintain a project database which shall include all records and documents, IRL #16.	It has been successfully validated that the proposed management system by CME meets the requirement 19(e) of EB 70 annex 05.
Measures for continuous improvements of the PoA management system;	CME Manual has been validated to have measures required for continual improvement of CPAs under this PoA; these measures would be initiated, implemented and monitored by CME & CPA implementer together. Furthermore, it was validated that CME shall carry out annual review of overall PoA Management system which shall be submitted to DOE during verification, IRL #16.	It has been successfully validated that the proposed management system by CME meets the requirement 19(f) of EB 70 annex 05.
Any other relevant elements.	Nil	-

Hence it could be confirmed that the PP would be able to implement the monitoring plan as per the methodology and the reporting requirement as per VVS §133 and §198.

3.6.12 Monitoring plan for a CPA

The monitoring plan presented in the specific CPA-DD complies with the requirements of the generic CPA-DDs and the applicable methodology. The assessment team has verified all parameters in the monitoring plan against the requirements of the methodology and no deviations have been found.

The procedures have been reviewed by the assessment team through document review and interviews with the relevant personnel. The information provided has allowed the assessment team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME and the CPA implementer. Specifically, these points include the monitoring methodology, data management, quality assurance and quality control procedures to be implemented in the context of the activity.

The specific CPA will be equipped with electricity meters, at least one main meter. Calibration frequency is at least once a year or as specified by the equipment supplier. The electricity invoices will be used for crosschecking.

The only parameter, which will be monitored ex-post, is $EG_{\text{facility},y}$:

Quantity of net electricity generation supplied by the project plant/unit to the grid in the year y : This parameter shall be continuously monitored by an energy meter and at least monthly recorded. The recorded data will be cross-checked with the records of electricity sold (using invoices/receipts, official data).

It can be confirmed that the parameter that is determined ex-post is correctly presented and is considered to be in accordance with the applied methodology and the applied tool.

Therefore, the CPA implementer will be able to implement the monitoring plan and the achieved emission reductions can be reported ex-ante and verified.

3.6.13 Sampling

Not applicable.

3.6.14 Environmental analysis of a PoA

It has been indicated that the environmental analysis is done at the CPA level.

According to the Law 19.300, "The Environmental General Base Law" IRL #15, every project developer in Chile has to analyze if his project requires an Environmental Impact Assessment, following the specific criteria stated on the Environmental Impact Assessment System (SEIA) Regulations. If the CPA requires an Environmental Impact Assessment, the project shall obtain from the SEIA the approval for this Assessment, which is done by means of an authorization document, published on the SEIA webpage (IRL #25), and also called DIA approval. Depending on the potential impact of the project, the CPA implementer has either to present an Environmental Impact Declaration (for projects with lower environmental impacts) or an Environmental Impact Assessment (for projects with higher potential environmental impacts).

For specific CPA, 'PV Project in La Tirana, Chile', a full environmental impact declaration has been validated which is available on the following web link:

http://seia.sea.gob.cl/expediente/expedientesEvaluacion.php?modo=ficha&id_expediente=7095939

Respective government approval has also been validated, IRL #26. Both documents confirm the correctness of the approach used by the PP. In conclusion, the PP has followed the requirements of the host country with regards to addressing environmental impacts.

As a result, it can be confirmed that the analysis of the environmental impacts was conducted as described in the CDM-PoA-DD and the CDM-CPA-DD (i.e. VVS §200).

3.6.15 Local stakeholder consultation

It has been indicated that the local stakeholder consultation is done at the CPA level.

The relevant local stakeholders have been invited via invitation letter sent to government officials related to the region as well as additional invitations sent directly to local representatives, IRL #28. The local stakeholder meeting was conducted on 19th March 2012 and the following documents were validated for the same:

1. Stakeholder consultation video, IRL #32.
2. Public Consultation Invitation Letter, IRL #28.
3. Public Consultation Report, IRL #31.
4. Public Consultation Pozo Almonte Attendees, IRL #30.

The assessment team has reviewed the documentation in order to validate the inclusion of relevant stakeholders. The local expertise of the assessment team confirmed that the communication method used to invite the stakeholders is appropriate and ensures transparency and the unbiased representation of the project information. The summary of comments presented in the CPA-DD has been verified with the documentation of the stakeholder consultation and has been found to be complete. Comments presented by the local stakeholders have been taken into account by the managing entity and has been verified with information obtained during on-site interviews.

As a result, it can be confirmed that the local stakeholder consultation is in accordance with the level of consultation specified by the managing entity and that the local stakeholder comments were taken into account and described in the CDM-PoA-DD and the CDM-CPA-DD (i.e. VVS §201 and §202).

3.6.16 Determination of occurrences of debundling under a PoA

Not applicable as per VVS §203.

Annex 1

List of Findings

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Definitions	
Shall / Should / May	In addition to the definitions contained in the Glossary of CDM terms, the following terms apply in the VVS (VVS/10): Shall is used to indicate requirements to be followed; Should is used to indicate that among several possibilities, one course of action is recommended as particularly suitable; May is used to indicate what is permitted.
Credible	Information is credible if it is authentic and is able to inspire belief or trust, and the willingness of persons to accept the quality of evidence. (VVS/17)
Reliable	Information is reliable if the quality of evidence is accurate and credible and able to yield the same results on a repeated basis. (VVS/17)
CAR	The DOE shall raise a corrective action request (CAR) if one of the following situations occurs (VVS/27): (a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable, verifiable and additional emission reductions; (b) The applicable CDM requirements have not been met; (c) There is a risk that emission reductions cannot be monitored or calculated.
CL	The DOE shall raise a clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. (VVS/26)
FAR	The DOE shall raise a forward action request (FAR) during validation to identify issues related to project implementation that require review during the first verification of the project activity. The DOE shall not raise a FAR that relates to the CDM requirements for registration (VVS/27)

Compilation and Resolutions of CARs, CLs and FARs

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD does not have information on the party responsible for communication with EB.	Closed Ok
Requirement	Para 186 of VVS	
Corrective Action Request	<u>Corrective Action Request No.1</u> PPs need to provide appropriate information in PoA-DD as per Para 186 of VVS (with regards to co-ordinating entity of PoA).	
Response	In the PoADD is now specified that CQC will be the contact point with the EB.	
Assessment	Revised PoA-DD has been validated to have the details on contact point with EB and responsi-	

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Corrective Action Requests by validation team		
Means of validation	bilities of CME.	
Adjustment on project design	No changes have been done in the project design.	

Corrective Action Requests by validation team									
	Comments and Results	Conclusion and IRL							
Issue	GSP PoA-DD does not have transparent information for the project boundary.	Closed Ok							
Requirement	Para 191 of VVS (EB 65 annex-4).								
Corrective Action Request	<u>Corrective Action Request No.2</u> PP needs to provide adequate details with regards to boundary of the PoA in terms of geographical area as per para 191 of VVS.								
Response	<p>This PoA will cover the territory of Chile included in the SIC and SING grids. Both of these systems combined represent the 99% of the installed capacity in Chile and cover over 98% of the population. Only two regions from the country are left outside of the boundary of this PoA: Aysen and Magallenes, which are the most southern regions and are served by independent electricity systems.</p> <p>In terms of geographic coordinates the geographical boundary if this PoA is the following:</p> <table><tr><td>North</td><td>17°29'S 69°18'W</td></tr><tr><td>East</td><td>43°15,663'S 74°24,271'W</td></tr><tr><td>West</td><td>23°00'S 67°00'W</td></tr><tr><td>South</td><td>43°47,87'S 72°30,127'W</td></tr></table>		North	17°29'S 69°18'W	East	43°15,663'S 74°24,271'W	West	23°00'S 67°00'W	South
North	17°29'S 69°18'W								
East	43°15,663'S 74°24,271'W								
West	23°00'S 67°00'W								
South	43°47,87'S 72°30,127'W								

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Corrective Action Requests by validation team		
	Any project located in continental Chile and Chiloe within this boundaries of the former polygon could be part of this PoA.	
Assessment Means of validation	Revised PoA-DD has been validated to have the details on host country map & coordinates.	
Adjustment on project design	No changes have been done in the project design.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Version number of the tool used is not mentioned in the GSP PoA-DD. Further, latest version is not used of these tools used.	Closed Ok
Requirement	Para 89 of VVS (EB 65 annex-4).	
Corrective Action Request	<u>Corrective Action Request No.3</u> <ul style="list-style-type: none"> - PP needs to update the PoA-DD to indicate applied version of “Tool for the demonstration and assessment of additionality” used for the additionality assessment. - PPs need to update the PoA-DD to include “Combined tool to identify the baseline scenario and demonstrate additionality” as mentioned in the applied methodology for baseline scenario identification. 	
Response	<p>The version used for the “Tool for the demonstration and assessment of additionality” is version 07.0.0, which has been included in the PoA-DD.</p> <p>Regarding the “Combined tool to identify the baseline scenario and demonstrate additionality”. It has not been used in the PoA-DD. The steps for the baseline scenario identification are also include in the “Tool for the demonstration and assessment of additionality”, which is the tool that was used.</p> <p>According to the approved methodology ACM0002 V 12.3 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”.</p>	

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Corrective Action Requests by validation team		
	<p>We don't require to use the 'Combined tool to identify the baseline scenario and demonstrate additionality'. It is only a requirement if the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit(s) at the project site, which is not the case. Please check the following part of the methodology:</p> <p>II. BASELINE METHODOLOGY PROCEDURE</p>	
Assessment Means of validation	Revised PoA-DD & CPA-DD have been validated to have appropriate details on applied tools as per applied methodology.	
Adjustment on project design	PoA-DD has been revised to include correct tools and applied methodology.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Relevant application local regulation is not mentioned in the PoA-DD.	Closed Ok
Requirement	Para 93 of VVS (EB 65 annex-4).	
Corrective Action Request	<p><u>Corrective Action Request No.4</u></p> <p>Although it has been mentioned that there are no mandatory laws and regulation which obstruct the identified laws. However, PP needs to mention all the relevant host country laws related to these alternatives.</p>	
Response	<ul style="list-style-type: none"> Law N° 19.940: General Law of Electric Services, which is the most important law that regulates the sector. This general law includes important features of the system such as a dispatch system based on marginal cost pricing and the creation of power markets that allow generators to trade electricity. Additionally the law grants access to the transmission line to all generation companies irrespective of size. Law N° 20.018: known as the "Short Law II" which makes it compulsory for transmission companies to issue a tender to acquire electricity through a competitive system securing 	

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Corrective Action Requests by validation team		
	<p>long term prices (contracts up to 15 years)</p> <ul style="list-style-type: none"> • Law N° 19.300: General Bases of the Environment, which states that, every energy project > 3MW needs to perform an Environmental Impact Assessment or Declaration. • Law N° 20.257: "Non Conventional Energy Sources (ERNC)" which establishes that: Non-conventional energy sources are geothermal, wind farms, solar, biomass, wave/tidal and small hydro electricity generating technologies up to 20 MW. 10% of the energy produced by large generation companies (>200MW) must be sourced from ERNC projects. This to be purchased in the market or generated in house. The regulation above is applicable in phases starting with an ERNC commitment of 5% for the period 2010 – 2014 and increasing by 0.5% afterwards up to the year 2024. Any excess generation using ERNC can be transferred between companies. Non compliance with the regulation involves a fine of 0.4UTM/MWh (about 31.1USD/MWh). <p>For more details about the relevant laws, that regulate Chilean Market refer to Annex 3 of Non-Conventional Renewable Energy in the Chilean Electricity Market, Page 120 – 122.</p> <p>Also available in PoA 11, Annex 3, page 120 – 122, Law N° 19.940, Law N° 20.018, Law N° 20.257 PoA 18, Page 3, Law N° 19.300</p>	
Assessment Means of validation	Revised PoA-DD with applicable laws and regulation has been validated and is also found appropriate based on local expertise.	
Adjustment on project design	Project design document has been revised to include applicable laws and regulation.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Appropriate framework for additionality of PoA is not provided in the PoA-DD as per applied EB 70 annex 5.	

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Corrective Action Requests by validation team		
Requirement	Para 7 of EB 70 annex-5.	Closed Ok
Corrective Action Request	<u>Corrective Action Request No.5</u> PP needs to update the eligibility criteria to have eligibility criteria for additionality as per applied 'Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities'.	
Response	The following eligibility criteria has been added to the PoA <ul style="list-style-type: none"> Projects must comply with the additionality criteria as outlined in Section B.1 of this PoA and according to the standard "Demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" version 02.1. 	
Assessment Means of validation	Revised PoA-DD has been validated to have project IRR as the suitable indicator with appropriate justification. However, it could not be validated whether PoA framework would use pre-tax or post-tax project IRR. Documentary evidence for benchmark has been submitted and has been validated to be a rational benchmark for Chile	
Adjustment on project design	PoA-DD has been revised to introduce additionality framework for CPAs using eligibility criteria.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD does not have appropriate details as to how CME shall assess eligibility criteria for CPAs.	Closed Ok
Requirement	Para 15 & 16 of EB 70 annex-5.	
Corrective Action Request	<u>Corrective Action Request No.6</u> PPs need to update eligibility criteria to indicate how these criteria shall be assessed by CME.	

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Corrective Action Requests by validation team		
Response	<p>Assessment means for all eligibility criteria have been included in the PoA,</p> <ul style="list-style-type: none"> The CPA project must be geographically located within the country of Chile and be connected to one of the two major Chilean grids, the SIC or the SING. The CME will check this eligibility criteria looking at the project description available in the environmental service of the region where the project will be located. <p>The CME will check the connection to the SIC or SING grid by consulting the list of active generators available in the SIC and SING websites¹</p> <ul style="list-style-type: none"> The project must comply with all of the requirements, monitoring parameters, applicability criteria and baseline scenario analysis as outlined in Version 12.3 of ACM002, <i>Consolidated baseline methodology for grid-connected electricity generation from renewable sources</i>. <p>Evidence for all applicability criteria should be validated</p> <ul style="list-style-type: none"> The projects implemented will be solar photovoltaic projects. To confirm the technology used in the CPAs the project developers will provide the CME with the description of the project that is made public in the environmental impacts declaration or evaluation . Because both the stakeholder analysis and environmental impact assessments or declaration will be done on the CPA level, each CPA implementer must complete an EIA or EID and conduct local stakeholder consultations as outlined in Sections E and F in this PoA. The CME will find evidence of the EIA or EID application and resolution in the website of the Environmental Impact Service². Since the stakeholder consultation is not 	

¹ http://cdec2.cdec-sing.cl/pls/portal/CDEC.MENU_INSTAL_GENE.show
https://www.cdec-sic.cl/contenido_en.php?categoria_id=6&contenido_id=000044

² <http://www.sea.gob.cl/>

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Corrective Action Requests by validation team

a legal requirement under the EID, the CPA implementer will provide invitation letters, attendees' signatures and video recordings of the meetings as evidence of its completion.

- The CPA must be able to demonstrate that it is not included in any other registered CDM PoA by providing exact location or GPS data and comparing that data to any other CDM project registered or under validation. Evidence of the exact location of the project will be available in the project's description of the EIA or DIA. This data will be compared by the CME against the data base of registered projects available in UNFCCC website.
- Solar PV projects must be able to measure output precisely and demonstrate it is supplying electricity to the grid. In order to assess this criteria the CPA implementer will provide records of electricity sold and reports from the grid operator indicating electricity injected to the grid.
- Projects must be able to demonstrate that the CPA is a voluntary activity, not required by law; Evidence for the voluntary action will be delivered in the form letter signed by the CPA implementer.
- Projects must comply with the additionality criteria as outlined in Section B.1 of this PoA and according to the standard "Demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" version 02.1

In order to check these criteria the project participant has to submit all the data and supporting evidence from the framework for project IRR Calculation. Also common practice analysis shall be applied in each CPA according to the guidelines established in the PoADD.

Item	Unit	Data Source
Installed Capacity	MW	EPR

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Corrective Action Requests by validation team

	Plant Factor	%	EPR
	Operation Life	Years	EPR
	Energy production	GWh / year	EPR
	Electricity price	USD/GWh	Latest year of hourly spot prices (available to CDEC SING or CDEC SIC), matched with the plant generation profile./PPA
	Investment	USD	Letter signed by EPC contractor (The Capex includes construction costs of the plant and the line as well as development costs))
	O&M costs	USD/kwac-year	Letter signed by service provider
	Panels derate Factor	%	EPR
	Discount rate	%	Same as benchmark (10%)
<p>If the result of the calculation of the Project IRR is below the 10% benchmark the project will be considered additional. Evidence and data for common practice assessment will be obtained from ACERA newsletters³, SIC⁴ and SING⁵ websites for active projects and CDM pipeline⁶.</p>			

³ <http://www.acera.cl/centro-de-informacion/newsletter/>

⁴ https://www.cdec-sic.cl/contenido_en.php?categoria_id=6&contenido_id=000044

⁵ http://cdec2.cdec-sing.cl/pls/portal/CDEC.MENU_INSTAL_GENE.show

⁶ <http://www.cdmpipeline.org/>

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Corrective Action Requests by validation team		
	<ul style="list-style-type: none"> The CPA implementer will be able to provide documentary evidence indicating that the DNA has been informed of the new CPA of the PoA. The CPA included in the DNA website would be enough evidence to prove this The project in the CPA must affirm that no funding is coming from Annex I parties or that if such funding does take place, it does not result in a diversion of official development assistance. This will be demonstrated through a signed letter by the CPA implementer. The CPA Implementer will be able to provide documentary evidence of the start date of the CPA. Evidence such as a supplier agreement, land purchase or a PPA can be provided for real action of the CPA and therefore start date. The CPA implementer will be able to provide documentary evidence for the reliability and performance of mayor components of the solar facilities. Manufacturer's performance warranty or certifications relevant for the industry are enough evidence for this criterion. Projects under this PoA must be Greenfield sites. This will be checked by consulting the environmental impact declaration or study that clearly states this issue. 	
Assessment Means of validation	<p>Revised PoA-DD has been validated to have appropriate procedure to check conformance of CPA to respective eligibility criteria.</p> <p>It is validated to be in line with para 15 of EB 70 annex-5, further all criteria required by para 15 of EB 70 annex-5 has been validated in the revised PoA-DD.</p> <p>Investment analysis approach included in the PoA-DD has been validated to be in line with tool for the demonstration and assessment of additionality.</p>	
Adjustment on project design	PoA-DD has been revised to include how CME shall check CPA's compliance with respective eligibility criteria.	

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Corrective Action Requests by validation team																			
	Comments and Results	Conclusion and IRL																	
Issue	GSP PoA-DD does not have all the required eligibility criteria as required by EB 70 annex-5.	Closed Ok																	
Requirement	Para 16 of EB 70 annex-5.																		
Corrective Action Request	<u>Corrective Action Request No.7</u> PPs need to include an eligibility criteria with regards to para 16 of EB 70 annex-5 (all eligibility criteria from the standard are not indicated in PoA-DD).																		
Response	<table><tr><th>The eligibility criteria shall cover as a minimum the following (EB70 Annex)</th><th>Included in PoA</th></tr><tr><td>a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA;</td><td>x</td></tr><tr><td>(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);</td><td>x</td></tr><tr><td>(c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications;</td><td>x</td></tr><tr><td>(d) Conditions to check the start date of the CPA through documentary evidence;</td><td>x</td></tr><tr><td>(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;</td><td>x</td></tr><tr><td>(f) The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality as specified in Section A above;</td><td>x</td></tr><tr><td>(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;</td><td>x</td></tr><tr><td>(h) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance;</td><td>x</td></tr></table>		The eligibility criteria shall cover as a minimum the following (EB70 Annex)	Included in PoA	a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA;	x	(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);	x	(c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications;	x	(d) Conditions to check the start date of the CPA through documentary evidence;	x	(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;	x	(f) The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality as specified in Section A above;	x	(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;	x	(h) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance;
The eligibility criteria shall cover as a minimum the following (EB70 Annex)	Included in PoA																		
a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA;	x																		
(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);	x																		
(c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications;	x																		
(d) Conditions to check the start date of the CPA through documentary evidence;	x																		
(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;	x																		
(f) The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality as specified in Section A above;	x																		
(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;	x																		
(h) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance;	x																		

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Corrective Action Requests by validation team				
	(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation);	N/A		
	(j) 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;	N/A		
	(k) Where applicable, the conditions that ensure that every CPA in aggregate meets the small-scale or microscale threshold criteria thresholds throughout the crediting period of the CPA;	N/A		
	(l) Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories.	N/A		
Assessment	Revised PoA-DD has been validated to have all the required eligibility criteria as per para 16 of EB 70 annex-5.			
Means of validation				
Adjustment on project design	PoA-DD has been revised to indicate required eligibility criteria in the PoA-DD.			

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD does not have details as to how each applicability criteria shall be validated during CPA inclusion.	Closed Ok
Requirement	Para 16 (e) of EB 70 annex-5.	
Corrective Action Request	<u>Corrective Action Request No.8</u> PPs need to update section B.3 of the PoA-DD to indicate how CME shall check compliance to all the applicability criteria during CPA inclusion.	

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South Asia

Corrective Action Requests by validation team

Response	Applicability Criteria from ACM002	Project Case	
	This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated 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).	All of the sites under this PoA will be grid-connected PV facilities that will be Greenfield sites. No capacity additions or retrofits, etc. are to be expected. This applicability criterion will be assessed using the project's description from the EIA or EID.	
	The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit.	Any project activity under this PoA will be a solar PV power plant. This applicability criterion will be assessed using the project's description from the EIA or EID and with EPR from technology manufacturer.	
	In the case of capacity additions, retrofits or replacements (except for capacity addition projects for which the electricity generation of the existing power plant(s) or unit(s) is not affected): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity addition or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;	Not applicable as this PoA is only implementing CPAs that are Greenfield sites.	

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Corrective Action Requests by validation team			
	<p>In the case of hydro power plants, one of the following conditions must apply:</p> <ul style="list-style-type: none"> ○ The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or ○ 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/m²; or ○ 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/m². 	Not applicable as this PoA will not include hydropower plants.	
	<p>The methodology is not applicable to the following:</p> <ul style="list-style-type: none"> • Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; • Biomass fired power plants; • Hydro power plants⁷ that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 	Not applicable since this PoA will not include biomass, hydroplants or any switching from fossil fuels to renewable energy.	

⁷ Project participants wishing to undertake a hydroelectric project activity that result in a new reservoir or an increase in the existing reservoir, in particular where reservoirs have no significant vegetative biomass in the catchments area, may request a revision to the approved consolidated methodology.

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Corrective Action Requests by validation team			
	W/m2.		
	In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	Not applicable as this PoA is only implementing CPAs that are Greenfield sites.	
Assessment Means of validation	Revised PoA-DD has been validated to indicate how CME shall check respective applicability criteria of the applied methodology. Further it was verified that all applicability criteria are covered by eligibility criteria of the PoA-DD. Hence it is acceptable.		
Adjustment on project design	PoA-DD has been revised to indicate how CME shall check CPA's compliance with applicability criteria.		

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD does not mention the correct applicability as per applied methodology.	Closed Ok
Requirement	Applicability criteria from ACM002 version 12.3.0	
Corrective Action Request	<u>Corrective Action Request No.9</u> PPs need to update the PoA-DD to indicate the correct applicability criteria (In the case of capacity additions, retrofits or replacements (except for capacity addition...)).	
Response	All correct applicability criteria are mentioned above	
Assessment Means of validation	Revised PoA-DD has been validated to have the correct applicability criteria.	
Adjustment on pro-	PoA-DD has been revised to have correct applicability criteria.	

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South Asia

Corrective Action Requests by validation team

ject design

Corrective Action Requests by validation team

	Comments and Results	Conclusion and IRL
Issue	PoA-DD does not have details on roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies.	Closed Ok
Requirement	Para 19 of EB 70 annex 5.	
Corrective Action Request	<u>Corrective Action Request No.10</u> PPs need to update the PoA-DD as per EB 70 annex-5, to include details on roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies.	
Response	<p>All of the requirements of the managements systems for the inclusion of CPA will be guided by the CME Manual - Chile Solar PoA.</p> <p>Definition of roles and responsibilities:</p> <p>The CME is comprised is comprised by</p> <ul style="list-style-type: none"> • PoA Manager, • Operations & Maintenance (O&M) Supervisor, • Monitoring Supervisor, and • Administrative Officer. <p>The organizational chart below reflects an almost flat structure with well-defined responsibilities as noted under Our Team.</p>	

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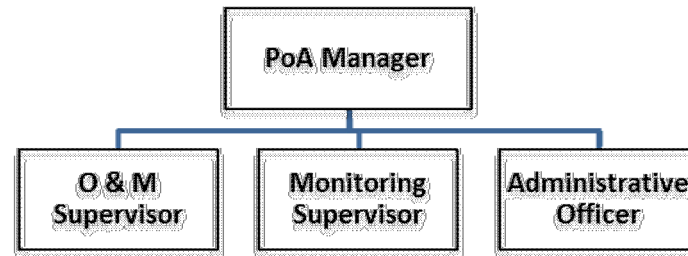
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South Asia

Corrective Action Requests by validation team

Our Team



Title

Tasks

PoA Manager

- Approves inclusion of CPAs and checks on their eligibility criteria during inclusion;
- Oversees proper commissioning and distribution of the system;
- Ensures compliance of the technology with the PoA requirements;
- Communicates with CDM and DOEs;
- Follows up with registration, inclusion and issuance of CERs; and
- Checks on periodical and annual monitoring set up and reports per CPA.

Operations & Maintenance

- Oversees training and introduction to O&M during installation and commissioning;

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Corrective Action Requests by validation team		
	<p>(O&M) Supervisor</p> <ul style="list-style-type: none"> Review and maintain records (evidence: land purchase, purchase order to suppliers, contract with service providers, equipment, etc.); Verifies, collects and maintains legal agreements (power purchase agreements and others). Periodically checks that implementation/ installation conforms to the standards detailed in the PoA; and Ensures that innovations based on implementation experience are considered in future CPA-DDs. <p>-----</p> <p>Monitoring Supervisor</p> <ul style="list-style-type: none"> Confirms that all CPA are following the monitoring steps in accordance with the registered monitoring plan; Confirms that implementation/ installation conforms to the standards detailed in the PoA (recorded by the O&M Supervisor); Ensures that all the monitoring data collected are consolidated and processed digitally in a central database; and Ensures that each CPA implementer produces a coherent and standard monitoring report annually. <p>-----</p> <p>Administrative Officer</p> <ul style="list-style-type: none"> Process and maintain the empanelment of CPA implementers; Identifies, process and execute contracts with DOEs, IT service providers, consultants (specialists), counselors, etc.; Coordinates the set up of and oversees the CME management software Produces monthly and ad-hoc reports for CME staff, CPA implementers, DOEs, CDM, etc. as required. <p><i>Records of arrangements for training and capacity development for personnel</i></p>	

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Corrective Action Requests by validation team		
	<p>The CME will carry out an annual review of the overall PoA management system. This review will take place during verification to help the CME in obtaining an outside perspective of the overall management process from the DOE. The CME O&M Supervisor will prepare a report to be shared with the Team, CPA implementers and the DOE outlining any problem that occurred during the previous year and list specific actions that he/she wants to suggest to the PoA Manager. This review analysis and improvements suggestions to the PoA management system will be done every year and it will include a training plan for the staff that will be kept in the project data base. As it will be provided to the DOE upon verification the following year, the DOE can thus assess the status and effectiveness of the recommended improvements.</p> <p>More details about training can be found in a separate document (CME Manual PoA19)</p>	
Assessment Means of validation	Revised PoA-DD has been validated to have transparent roles and responsibilities for CME team. Further, CME Manual has been submitted and validated which indicates a detailed management system to maintain qualification criteria, training, avoidance of double counting, roles and responsibilities, etc.	
Adjustment on project design	PoA-DD has been revised to indicate the transparent roles and responsibilities.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	PoA-DD does not have details on records of training and capacity development for CME personnel.	Closed ok
Requirement	Para 19 of EB 70 annex 5.	
Corrective Action Request	<p><u>Corrective Action Request No.11</u></p> <p>PPs need to update the PoA-DD as per EB 70 annex-5, to include details as to how records of arrangements for training and capacity development for personnel shall be maintained.</p>	

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Corrective Action Requests by validation team		
Response	<p><i>Records and documentation control process:</i></p> <p>CQC and Solar Chile will maintain a database system that will consist of the following details for each CPA, so each can be uniquely identified:</p> <ol style="list-style-type: none"> 1. Name of the CPA implementer as well as contractual relationships (owner, operator, investor and counterparty to any power purchase agreement). The CME will also record any changes in this structure throughout the crediting period. 2. GPS coordinates and precise location (town, province, etc.). 3. Technical specifications, such as capacity, number of panels and manufacturer of panels, location of connection to grid. 4. Key dates for each facility, including financial closure, groundbreaking, construction and commissioning. 5. Copies of licenses, permits, environmental impact assessments and any other regulatory documentation. 6. Records of start dates for the crediting period as well as monitoring/verification reports and records of issuance of CERs. 7. All records of MWH output from each plant. <p><i>Prevention of Double Counting:</i> Each CPA implementer, if not Solar Chile, will sign an agreement with the CME indicating it is agreeing to participate in the PoA and that it is not a part of</p>	

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Corrective Action Requests by validation team		
	<p>any other PoA. To ensure against double counting the CME will undertake the following procedure:</p> <ul style="list-style-type: none">• Review all other solar PV projects in Chile – in both registration and validation stage – to ensure that they are in fact different and distinct projects. This information can be obtained from the Project Registry of the UNFCCC website.• For each CPA, the CPA implementer will declare to the CME that the individual project is not included in any other PoA.• If there are any other PoAs in Chile that use ACM002, the CME will go through each and if any solar PV projects are included as CPAs, the CME will ensure that the basic criteria, such as GPS, technical specifications, etc. are different that any of the CPAs included in this PoA. <p><i>Procedures for technical review of inclusion of CPAs.</i> CQC will work to ensure proper eligibility of the CPAs before they are uploaded for official inclusion into the PoA. CQC will review each CPA document and methodically go through each and every eligibility/applicability criterion of the PoA to make sure there is no question that the CPA meets each requirement. In cases where there is doubt, the CME will not upload the CPA document until the requirements are met to the CME's satisfaction. CQC will review all proposed monitoring procedures to ensure they are in line with PoA and ACM002. After inclusion, CQC personnel will spot check individual project sites to ensure all data is being collected and archived in accordance with the PoA.</p> <p><i>Measures for continuous improvements of the PoA management system.</i> CQC will undertake an annual review of the overall PoA management system, including identifying any problems with electricity metering and monitoring, data to determine the combined margin distribution, and overall performance of the project. This review will take place during the verifications stage, which will assist CQC in obtaining an outside perspective of the overall management</p>	

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Corrective Action Requests by validation team		
	<p>process from the DOE. CQC will prepare a written report for its internal team, CPA implementers and the DOE outlining problems that occurred during the previous year and list specific actions that will take place to resolve any problems. This written analysis and improvements to the PoA management system will be done every year, with the written document being provided to the DOE upon verification the following year. The DOE can thus assess the status and effectiveness of the recommended improvements.</p> <p>The main role of the CME will be to ensure that the CPA project is not registered or seeking to be registered either as a stand-alone CDM project activity or as part of another PoA. To do this, the CME will take the responsibility to search all relevant databases, including the UNFCCC project registry, to confirm that no project with the same location (GPS coordinates) or other identifying information is the same as the CPA that is proposed to be registered. All results from these searches will be provided to the DOE. The CME will also handle the task of calculating the emissions factor in accordance to the <i>“Tool to calculate the emissions factor for an electricity system”</i>, and ensure that the CPA complies with all other aspects of the methodology (ACM002) as well as all other UNFCCC guidelines.</p>	
Assessment Means of validation	Revised PoA-DD has been validated to have transparent roles and responsibilities for CME team. Further, CME Manual has been submitted and validated which indicates a detailed management system to maintain qualification criteria, training, avoidance of double counting, roles and responsibilities, training records, monitoring, etc.	
Adjustment on project design	PoA-DD has been revised to indicate the management system transparently.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD does not have details as to how start date for PoA is determined by the CME.	Closed Ok
Requirement	VVS	

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Corrective Action Requests by validation team		
Corrective Action Request	<u>Corrective Action Request No.12</u> PPs need to update PoA-DD to indicate how the start date has been determined in section D.1.	
Response	The start date of the PoA has been established at 20/4/2012. This is when the PoA was posted to GSP.	
Assessment Means of validation	PoA-DD has been revised to have a transparent start date which is validated to be 20/04/2012, further this has been validated to be in line with definition of start date with VVS.	
Adjustment on project design	PoA-DD has been revised with transparent start date for PoA.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD does not have details on the justification for choosing CPA level environmental impact analysis.	Closed Ok
Requirement	Para 199 & 200 of VVS (EB 65 annex-4).	
Corrective Action Request	<u>Corrective Action Request No.13</u> PPs need to update the section E.1 of the PoA-DD to include the justification for the choosing CPA level environmental impact analysis.	
Response	Due to the nature of the project, it is envisioned that a local environmental impact analysis is the most appropriate and conservative method to assess any impact that CPA may have. According to Chilean all energy projects over 3 MW are required to conduct an Environmental Impact Assessment (EIA) or Declaration (EID) as established in Law 19300, General Bases of the Environment of Chilean legislation. Each CPA will be required to conduct its own environmental impact assessment (EIA) or declaration (EID) and must follow all procedures as outlined under Chilean environmental law (Law 19300, General Bases of the Environment). The EIA or EID will be submitted to the regional	

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Corrective Action Requests by validation team		
	<p>Environmental Impact Service, where the CPA will be located and this service will provide its resolution.</p> <p>Given that solar PV projects cause no air or water emissions, the environmental impacts are expected to be local (impacts on ground use, such as effects on animal and plant habitats). Thus transboundary impacts do not need to be considered and Environmental Impact Assessment or Declaration will be carried out at CPA level.</p>	
Assessment Means of validation	Revised PoA-DD has been validated to have appropriate justification, which is local regulation and evaluation of possible impacts of individual projects under PoA.	
Adjustment on project design	PoA-DD has been revised with transparent details on EIA.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Section B.1 of GSP PoA-DD (in part-II) does not refer to applicable tools	Closed Ok
Requirement	EB 70 annex 06.	
Corrective Action Request	<p><u>Corrective Action Request No.14</u></p> <p>PPs need to update section B.1 (in part-II of PoA-DD) to include reference to all the applicable tools used by the PoA.</p>	
Response	<p>ACM0002: "Consolidated baseline methodology for grid connected electricity generation from renewable sources", Version 12.3.0,</p> <p>"Tool for the demonstration and assessment of additionally." (version 07.0.0)</p> <p>"Tool to calculate the emission factor for an electricity system" Version 03.0.0 will be used.</p>	
Assessment Means of validation	Revised PoA-DD has been validated to have applicable tools with latest versions. Hence it is acceptable and this issue is closed.	

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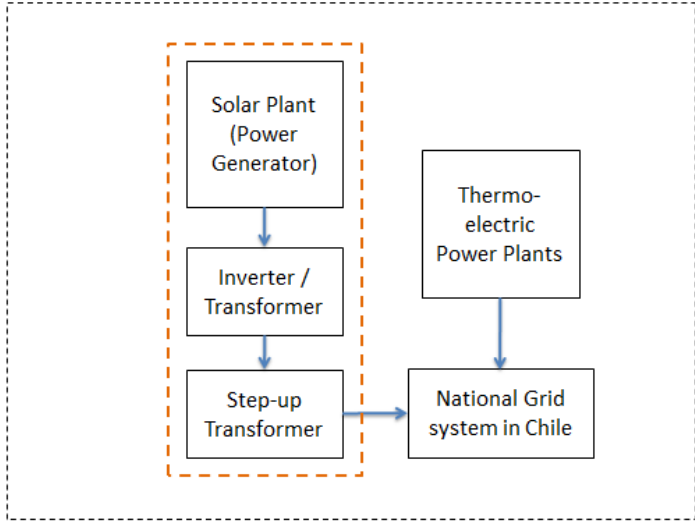


South Asia

Corrective Action Requests by validation team

Adjustment on project design	PoA-DD has been revised with details of applied methodology and tool.	
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Corrective Action Requests by validation team

	Comments and Results	Conclusion and IRL
Issue	Generalized flow diagram of a typical CPA is not mentioned.	Closed Ok
Requirement	EB 70 annex 06.	
Corrective Action Request	<u>Corrective Action Request No.15</u> The PoA-DD shall be in line with the PoA-DD guidelines.	
Response	<p>Project Boundary</p>  <p>Section B.3 Part II of the PoA-DD updated accordingly.</p>	

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Corrective Action Requests by validation team		
Assessment	Revised PoA-DD has been validated to have an appropriate generalized flow diagram indicating the project boundary for typical CPA (as per applied methodology). Hence it is acceptable.	
Means of validation		
Adjustment on project design	PoA-DD has been revised to be in line with PoA-DD guidelines, EB 70 annex 06.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Generalized flow diagram of a typical CPA is not mentioned.	<i>Closed</i> <i>Ok</i>
Requirement	Baseline emission calculation as per ACM002 ver 12.3	
Corrective Action Request	<u>Corrective Action Request No.16</u> PPs need to update the PoA-DD to include all the required steps which CPA shall follow to calculate grid emission factor (as per "Tool to calculate the emission factor for an electricity system").	
Response	<i>The following 6 steps have been described in detail in the PoA</i> STEP 1. Identify the relevant electricity systems. STEP 2. Choose whether to include off-grid power plants in the project electricity system (optional). STEP 3. Select a method to determine the operating margin (OM). STEP 4. Calculate the operating margin emission factor according to the selected method. STEP 5. Calculate the build margin (BM) emission factor. STEP 6. Calculate the combined margin (CM) emissions factor.	

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Step 1 - Identify the relevant electricity power systems

For the purpose of determining the electricity emission factors, a project electricity system is defined by the geographic extent of the power plants that are physically connected through transmission and distribution lines to the project activity (e.g. the renewable power plant location or the place where electricity is being saved) and that can be dispatched without significant transmission constraints.

Similarly, a connected electricity system, e.g. national or international, is defined as an electricity system that is connected by transmission lines to the project electricity system. Power plants within the connected electricity system can be dispatched without significant transmission constraints but transmission to the project electricity system has significant transmission constraints.

As was explained before, the CPA will be developed either in the SING or the SIC grids. Both of these systems are not connected between each other or with any other system of the country, so there are neither exports nor import of electricity.

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

Project participants may choose between the following two options to calculate the operating margin and build margin emission factor:

Option I: Only grid power plants are included in the calculation.

Option II: Both grid power plants and off-grid power plants are included in the calculation.

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Only grid connected power plants will be included: Option I.

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

The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods:

- (a) Simple OM, or
- (b) Simple adjusted OM, or
- (c) Dispatch data analysis OM, or
- (d) Average OM.

For the case of the SING the method chosen for the calculation of the OM is (a) Simple OM because in the SING low-cost/must run resources constitute less than 50% of the total generation of the national grid:

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SING MIX	2006	2007	2008	2009	2010	2011
Fuel Oil Nro. 6	19	378	330	308	276	192
Carbón	3899	5510	5984	5975	7225	11000
Hidro + BESS	70	68	68	62	57	71
Diesel + Fuel Oil	43	41	31	92	114	69
Carbón + Petcoke	2710	2516	2496	2464	1512	0
Gas Natural	6404	3147	1713	3003	4042	4104
Diesel	92	2285	3879	3003	1874	361
Petcoke	0	0	0	0	0	92
Renewables Not Hydro	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0
GWh Annual	13,236.01	13,945.78	14,502.34	14,906.77	15,100.08	15,889.14
SING MIX	2,006.00	2,007.00	2,008.00	2,009.00	2,010.00	2,011.00
low cost/must run resources	69.74	68.17	67.84	61.87	56.87	71.24
Other	13,166.28	13,877.61	14,434.51	14,844.90	15,043.21	15,817.90
GWh Annual	13,236.01	13,945.78	14,502.34	14,906.77	15,100.08	15,889.14
SING MIX	2006	2007	2008	2009	2010	2011
low cost/must run resources	0.53%	0.49%	0.47%	0.42%	0.38%	0.45%
Other	99.47%	99.51%	99.53%	99.58%	99.62%	99.55%

For the case of the CPA's located in the SIC the method chosen to be used to calculate the OM emission factor (EFgrid,OM,y) will be the (b) Simple Adjusted OM.

In both cases the OM will be determined applying *ex ante* option, using a 3-year generation-weighted average based on the most recent data available at the time of submission to the DOE for validation.

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

The (a) **Simple OM** (applicable to the SING) will be calculated according to the following:

The simple OM emission factor is calculated as the generation-weighted average CO₂ emis-

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Corrective Action Requests by validation team		
	<p>sions per unit net electricity generation (tCO₂/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units.</p> <p>The simple OM may be calculated by one of the following two options:</p> <p>Option A: Based on the net electricity generation and a CO₂ emission factor of each power unit;³ or</p> <p>Option B: Based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system.</p> <p>Option B can only be used if:</p> <ul style="list-style-type: none">(a) The necessary data for Option A is not available; and(b) Only nuclear and renewable power generation are considered as low-cost/must-run power sources and the quantity of electricity supplied to the grid by these sources is known; and(c) Off-grid power plants are not included in the calculation (i.e. if Option I has been chosen in Step 2). <p>All the conditions above are true for the case of the SING, therefore Option B - Calculation based on total fuel consumption and electricity generation of the system - will be used:</p> <p>Under this option, the simple OM emission factor is calculated based on the net electricity supplied to the</p> <p>grid by all power plants serving the system, not including low-cost/must-run power plants/units, and based on the fuel type(s) and total fuel consumption of the project electricity system, as follows:</p>	

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$$EF_{\text{grid,OMsimple},y} = \frac{\sum_i (FC_{i,y} \times NCV_{i,y} \times EF_{\text{CO2},i,y})}{EG_y}$$

Where:

$EF_{\text{grid,OMsimple},y}$ = Simple operating margin CO2 emission factor in year y (tCO2/MWh)

$FC_{i,y}$ = Amount of fossil fuel type i consumed in the project electricity system in year y (mass or volume unit)

$NCV_{i,y}$ = Net calorific value (energy content) of fossil fuel type i in year y (GJ/mass or volume unit)

$EF_{\text{CO2},i,y}$ = CO2 emission factor of fossil fuel type i in year y (tCO2/GJ)

EG_y = Net electricity generated and delivered to the grid by all power sources serving the system, not including low-cost/must-run power plants/units, in year y (MWh)

i = All fossil fuel types combusted in power sources in the project electricity system in year y

y = The relevant year as per the data vintage chosen in Step 3

As mentioned before for the case of the SIC the **(b) Simple adjusted OM** approach will be taken. Its calculation will be carried out as follows:

The simple adjusted OM emission factor ($EF_{\text{grid,OM-adj},y}$) is a variation of the simple OM, where

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the power plants/units (including imports) are separated in low-cost/must-run power sources (k) and other power sources (m). It is calculated based on the net electricity generation of each power unit and an emission factor for each power unit, as follows:

$$EF_{\text{grid,OM-adj},y} = (1 - \lambda_y) \times \frac{\sum_m EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}} + \lambda_y \times \frac{\sum_k EG_{k,y} \times EF_{EL,k,y}}{\sum_k EG_{k,y}}$$

Where:

$EF_{\text{grid,OM-adj},y}$ = Simple adjusted operating margin CO2 emission factor in year y (tCO2/MWh)

- λ_y = Factor expressing the percentage of time when low-cost/must-run power units are on the margin in year y

$EG_{m,y}$ = Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)

$EG_{k,y}$ = Net quantity of electricity generated and delivered to the grid by power unit k in year y (MWh)

$EF_{EL,m,y}$ = CO2 emission factor of power unit m in year y (tCO2/MWh)

$EF_{EL,k,y}$ = CO2 emission factor of power unit k in year y (tCO2/MWh)

m = All grid power units serving the grid in year y except low-cost/must-run power units

k = All low-cost/must run grid power units serving the grid in year y

y = The relevant year as per the data vintage chosen in Step 3

The parameter λ_y is defined as follows:

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$$\lambda_y (\%) = \frac{\text{Number of hours low - cost / must - run sources are on the margin in year } y}{8760 \text{ hours per year}}$$

Lambda (• _y) should be calculated as follows:

Step (i) Plot a **load duration curve**. Collect chronological load data (typically in MW) for each hour of the year *y*, and sort the load data from the highest to the lowest MW level. Plot MW against 8760 hours in the year, in descending order.

Step (ii) Collect electricity generation data from each power plant/unit. Calculate the total annual generation (in MWh) from low-cost / must-run power plants/units (i.e. • _k *EG_{k,y}*).

Step (iii) Fill the load duration curve. Plot a horizontal line across the load duration curve such that the area under the curve (MW times hours) equals the total generation (in MWh) from low-cost / must-run power plants/units (i.e. • _k *EG_{k,y}*).

Step (iv) Determine the .Number of hours for which low-cost/must-run sources are on the margin in year *y*. First, locate the intersection of the horizontal line plotted in Step (iii) and the load duration curve plotted in Step (i). The number of hours (out of the total of 8760 hours) to the right of the intersection is the number of hours for which low-cost/must-run sources are on the margin. If the lines do not intersect, then one may conclude that low-cost/must-run sources do not appear on the margin and • _y is equal to zero. In determining • _y only grid power units (and no off-grid power plants) should be considered.

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

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	<p>The build margin will be calculated using ex-ante option. The build margin emissions factor is the generation-weighted average emission factor (tCO₂/MWh) of all power units, m, during the most recent year, y, for which power generation data is available, calculated as follows:</p> $EF_{\text{grid,BM},y} = \frac{\sum_m EG_{m,y} \times EF_{\text{EL},m,y}}{\sum_m EG_{m,y}}$ <p>Where:</p> <p>$EF_{\text{grid,BM},y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh)</p> <p>$EG_{m,y}$ = Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)</p> <p>$EF_{\text{EL},m,y}$ = CO₂ emission factor of power unit m in year y (tCO₂/MWh)</p> <p>m = Power units included in the build margin</p> <p>y = Most recent historical year for which electricity generation data is available</p> <p>To calculate the emission factor for each plant, the following formula can be used (Step 4 Option A2):</p>	

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	$EF_{EL,m,y} = \frac{EF_{CO2,m,i,y} \cdot 3.6}{\eta_{m,y}}$ <p>Where:</p> <p>$EF_{EL,m,y}$ = CO₂ emission factor of power unit m in year y (tCO₂/MWh)</p> <p>$EF_{CO2,m,i,y}$ = Average CO₂ emission factor of fuel type i used in power unit m in year y (tCO₂/GJ)</p> <ul style="list-style-type: none"> $\eta_{m,y}$ = Average net energy conversion efficiency of power unit m in year y (ratio) <p>m = All power units serving the grid in year y except low-cost/must-run power units</p> <p>y = The relevant year as per the data vintage chosen in Step 3</p> <p>The sample group m will be determined as per the procedure in the “Tool to calculate the emission factor for an electricity system v.03.0.0”.</p> <p>Step 6: Calculate the combined margin emission factor:</p> <p>The calculation of the combined margin (CM) emission factor ($EF_{grid,CM,y}$) is based on one of the following methods:</p> <p>(a) Weighted average CM; or</p> <p>(b) Simplified CM.</p>	

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Corrective Action Requests by validation team		
	<p>For the calculation of the CM in the CPA option (a) Weighted average CM will be used as follows:</p> $EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$ <p>Where:</p> <p>$EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh) .</p> <p>$EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh.)</p> <p>w_{OM} = Weighting of operating margin emissions factor (%).</p> <p>w_{BM} = Weighting of build margin emissions factor (%).</p> <p>As the CPAs will be solar PV power plants, the value applied for w_{OM} is 0.75 and w_{BM} is 0.25.</p>	
Assessment	Revised PoA-DD has been validated to include details on calculation of grid emission factor as per Tool to calculate the emission factor for an electricity system, further it has been validated that PoA chose to have an ex-ante emission factor which shall be calculated at CPA level.	
Means of validation		
Adjustment on project design	PoA-DD has been revised to be in line with tool to calculate the emission factor for an electricity system	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD does not have appropriate details on the example of sources which shall be used for ex-ante parameters of CPA in section B.6.2	Closed Ok
Requirement	Para 132 of VVS (EB 65 annex 4)	
Corrective Action	<u>Corrective Action Request No.17</u>	

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Corrective Action Requests by validation team		
Request	PPs need to identify or mention the example of sources to be used for ex-ante parameters mentioned in section B.6.2.	
Response	<p>Data sources for all the ex-ante parameters have been included. Section B.6.2 Part II of the PoA-DD updated accordingly.</p> <p>$EG_{m,y}$, EG_y, $EG_{k,y}$ and $EG_{n,h}$ Data Source: CDEC-SING⁸ and CDEC-SIC⁹</p> <p>$FC_{i,m,y}$, $FC_{i,y}$ Data Source: CDEC-SING¹⁰ and CDEC-SIC¹¹</p> <p>$NCVi,y$ Data Source: (c) use of regional or national defaults available in the National Energy Balances¹²</p> <p>$EFCO2,i,y$, $EFCO2,m,i,y$ Data Source: IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories.</p>	
Assessment	Revised PoA-DD has been validated to have appropriate sources which could be used for ex-ante parameters. Hence it is acceptable	
Means of validation		
Adjustment on pro-	PoA-DD is revised to have plausible sources for ex-ante parameters.	

⁸ http://cdec2.cdec-sing.cl/pls/portal/CDEC.MENU_GENE_ENERGIA.SHOW

⁹ https://www.cdec-sic.cl/index_en.php

¹⁰ http://cdec2.cdec-sing.cl/pls/portal/CDEC.MENU_COSU_TEORICO_COMB.show

¹¹ https://www.cdec-sic.cl/index_en.php

¹² http://antiguo.minenergia.cl/minwww/opencms/14_portal_informacion/06_Estadisticas/Balances_Energ.html

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Corrective Action Requests by validation team		
ject design		

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD does not contain formula for calculation fo emission reduction in section B.6.3	Closed ok
Requirement	Para 72 of VVS (EB 65 annex 4)	
Corrective Action Request	<u>Corrective Action Request No.18</u> PPs need to include all the formulae required for the determination of emission reduction in section B.6.3 of the PoA-DD.	
Response	<p>Emission reductions will be calculated as follows:</p> <p>Project emissions: According to the methodology, project emissions are calculated as follows:</p> $PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$ <p>(1)Where:</p> <p>PE_y = Project emissions in year y (tCO₂e/yr)</p> <p>PE_{FF,y} = Project emissions from fossil fuel consumption in year y (tCO₂/yr)</p> <p>PE_{GP,y} = Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO₂e/yr)</p> <p>PE_{HP,y} = Project emissions from water reservoirs of hydro power plants in year y (tCO₂e/yr)</p> <p>However, for all projects coming under this PoA, there will be no fossil fuel consumption. And because hydropower and geothermal plants are not considered under this PoA, these project emissions do not have to be considered. Thus, PE = 0.</p> <p>Baseline Emissions: According to the methodology, baseline emissions are calculated as</p>	

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Corrective Action Requests by validation team		
	<p>follows:</p> $BE_y = EG_{PJ,y} \cdot EF_{grid,CM,y}$ <p>Where:</p> <p>BE_y = Baseline emissions in year y (tCO₂/yr)</p> <p>$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)</p> <p>$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO₂/MWh)</p> <p>Calculation of $EG_{PJ,y}$</p> <p>If the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, then:</p> $EG_{PJ,y} = EG_{facility,y}$ <p>Where:</p> <p>$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)</p> <p>$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)</p> <p>Emission reductions</p> <p>Emission reductions are calculated as follows:</p> $ER_y = BE_y - PE_y$ <p>(1)Where:</p> <p>ER_y = Emission reductions in year y (t CO₂e/yr)</p> <p>BE_y = Baseline emissions in year y (t CO₂/yr)</p>	

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Corrective Action Requests by validation team		
	$PE_y = \text{Project emissions in year } y \text{ (t CO}_2\text{e/yr)}$ As established before $PE_y = 0$, therefore: $ER_y = BE_y = EG_{\text{facility},y} \cdot EF_{\text{grid,CM},y}$	
Assessment Means of validation	Revised PoA-DD has been validated to have details on emission reduction calculation as per applied methodology.	
Adjustment on project design	PoA-DD has been revised to have required emission reduction formula.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Emission reduction calculation format for CPAs is provided, however template for grid emission factor calculation is not included in the sheet.	Closed ok
Requirement	Para 148 of VVS (EB 65 annex 4)	
Corrective Action Request	<u>Corrective Action Request No.19</u> PPs need to provide us the standard Emission reduction calculation sheet including grid emission factor which would be used for ER computation from each CPA.	
Response	Document PoA22 has been updated to contain a template for both the estimation of CERS and calculation of EF.	
Assessment Means of validation	Emission reduction calculation sheet has been submitted and validated to be in line with ACM0002,	
Adjustment on project design	No changes have been done in the project design.	

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Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Location of energy meters for a typical CPA is not mentioned in the GSP PoA-DD	Closed Ok
Requirement	Para 132 of VVS (EB 65 annex 4) & applied methodology ACM 0002 ver 12.3	
Corrective Action Request	<u>Corrective Action Request No.20</u> <ul style="list-style-type: none"> - PPs need to use the correct unit for $EG_{facility,y}$ as per applied methodology. - Monitoring shall be as per the applied methodology and as per VVS para 132 	
Response	<p>The main meter of the power plant will be located at the interconnection point, where the electricity is injected to the grid.</p> <p>Unit for $EG_{facility,y}$ has been updated as MWh</p>	
Assessment Means of validation	Revised PoA-DD has been validated to have an appropriate meter location for a typical CPA, also it has been validated to consider MWh as the monitoring unit. Hence it is accepted.	
Adjustment on project design	Section B.7.2 and B.7.1 Part II of the PoA-DD updated accordingly.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Combined margin emission factor has not been included as one of the monitoring parameter for a typical CPA under this PoA.	Closed Ok
Requirement	Para 132 of VVS (EB 65 annex 4) & "Tool to calculate the emission factor for an electricity system"	
Corrective Action Request	<u>Corrective Action Request No.21</u> <p>PPs need to update the PoA-DD to indicate the combined margin for grid as one of the monitoring parameter.</p>	

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Corrective Action Requests by validation team		
Response	Emission Factor will be calculated exante, therefore there is no need to monitor this parameter during CPA development. Data for the calculation of the emission factor has been included under B.6.2 section for its reporting exante.	
	Additionally the following has been including as parameters to be reported ex ante	
	Data / Parameter	CM, BM, OM
	Unit	-
	Description	Combined margin, build margin & operating margin emission factor
	Source of data used	Calculation using previous data
	Value applied	Varies
	Choice of data or measurement methods and procedures	
	Purpose of data	Used to calculate the CERs from the project
	Additional comment	
Assessment Means of validation	Revised PoA-DD has been validated to have parameter on combined margin emission factor. Hence it is accepted.	
Adjustment on project design	PoA-DD has been revised to include required parameters which is fixed ex-ante and calculated at CPA level.	

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Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Appropriate details or contingency procedure during breakdown of main meter is not mentioned in the PoA-DD.	Closed Ok
Requirement	Para 132 of VVS (EB 65 annex 4)	
Corrective Action Request	<u>Corrective Action Request No.22</u> PPs need to incorporate the measures to be taken if in case the main meter of any CPA breaks down (section B.7.2 of PoA-DD).	
Response	In case meter fails, the grid operator will be contacted and invoice data will be contrasted with meter readings. The grid operator can estimate the amount of electricity injected to the grid precisely by readings of other meters of the system and balance estimations.	
Assessment Means of validation	Revised monitoring plan in PoA-DD has been validated to have appropriate provisions & measures for cases when main meter breaks down. Hence it is acceptable.	
Adjustment on project design	PoA-DD has been revised.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	PoA-DD has used two different technology – Solar PV & Solar thermal, therefore CME needs to comply with para 144 of EB 70 annex-2 required for registration of PoA.	Closed Ok
Requirement	Para 144 of Project standard (EB 70 annex-2)	
Corrective Action Request	<u>Corrective Action Request No.23</u> As per EB 70 annex-2, CME needs to provide specific case CPA-DD for respective technology/measure used in the PoA-DD.	
Response	Only PV technology will be used in this PoA. The PoADD has been updated to consider ONLY PV.	

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Corrective Action Requests by validation team		
	<p>Extract from the PoA DD</p> <p>The CPAs under this PoA will consist of grid-connected PV systems that will produce electricity from the sun. There will be no minimum or maximum capacity or output for these PV facilities and the key requirement is that they use PV technologies and feed electricity into the SIC or SING regional grids.</p> <p>The only CPADD to be presented with this PoA is “La Tirana Solar”, which consists in PV technology</p>	
Assessment Means of validation	Revised PoA-DD has been validated to have only Solar PV as CPAs under this PoA. Hence it is acceptable.	
Adjustment on project design	PoA-DD has been revised to consider only Solar PV under this PoA,	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	<p>As per GSP PDD, following has been indicated in section A.2:</p> <ol style="list-style-type: none"> 1. Construction of expensive LNG terminals 2. Evidence for \$50 billion investment in the market for mining (mentioned in PoA-DD). 3. Weblink shows an error, PP needs to provide the correct weblink, 4. Evidence for the carbon intensity of the northern grid (graph) shown in section A.2 of the PoA-DD. 5. Status of small scale solar power plants mentioned in section A.2. <p>However, no reference or documentary evidence has been submitted for validation.</p>	Closed Ok
Requirement	VVS para 22	
Clarification Request	<p><u>Clarification Request No. 1</u></p> <p>PPs need to provide all the documents quoted in PoA-DD under policy/measure (translated to</p>	

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Clarification Requests by validation team		
	<p>English where required) including the following:</p> <ol style="list-style-type: none"> 1. Construction of expensive LNG terminals 2. Evidence for \$50 billion investment in the market for mining (mentioned in PoA-DD). 3. Weblink shows an error, PP needs to provide the correct weblink, 4. Evidence for the carbon intensity of the northern grid (graph) shown in section A.2 of the PoA-DD. 5. Status of small scale solar power plants mentioned in section A.2. 	
Response	<p>The following documents or weblinks are available for DOE consultation (please consult Documents Master List for Guidance)</p> <ol style="list-style-type: none"> 1. Construction of expensive LNG terminals PoA1: http://www.bnamericas.com/news/oilandgas/GDF_Suez_official:_Mejillones_LNG_price_tied_to_project_cost 2. Evidence for \$50 billion investment in the market for mining (mentioned in PoA-DD). PoA2: http://www.bloomberg.com/news/2012-04-24/power-shortage-hurts-chile-s-100-billion-copper-push.html 3. Weblink shows an error, PP needs to provide the correct weblink, Weblinks have been corrected and updated 4. Evidence for the carbon intensity of the northern grid (graph) shown in section A.2 of the PoA-DD. Two graphs have been included to address this topic. References can be consulted in PoA5 and PoA6 documents. 5. Status of small scale solar power plants mentioned in section A.2. Data and a graph from ACERA (Chilean NCRE association) has been included to show the 	

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Clarification Requests by validation team																																						
	<p>lack of large scale solar development in Chile</p> <table><caption>Estimated data from the 3D stacked bar chart</caption><thead><tr><th>Source</th><th>Commissioned</th><th>Under Construction</th><th>Approved</th><th>In Evaluation</th><th>Total</th></tr></thead><tbody><tr><td>Wind</td><td>~500</td><td>~500</td><td>~2500</td><td>~2000</td><td>~5500</td></tr><tr><td>Solar</td><td>0</td><td>0</td><td>~2500</td><td>~1200</td><td>~3700</td></tr><tr><td>Biomass</td><td>~1000</td><td>0</td><td>~200</td><td>0</td><td>~1200</td></tr><tr><td>Geothermal</td><td>0</td><td>0</td><td>~200</td><td>~200</td><td>~400</td></tr><tr><td>Mini Hydro</td><td>~500</td><td>~200</td><td>~500</td><td>~500</td><td>~1700</td></tr></tbody></table> <p>Reference for this data can be found in PoA4 document</p> <p>Section A from the PoADD has been updated accordingly</p>	Source	Commissioned	Under Construction	Approved	In Evaluation	Total	Wind	~500	~500	~2500	~2000	~5500	Solar	0	0	~2500	~1200	~3700	Biomass	~1000	0	~200	0	~1200	Geothermal	0	0	~200	~200	~400	Mini Hydro	~500	~200	~500	~500	~1700	
Source	Commissioned	Under Construction	Approved	In Evaluation	Total																																	
Wind	~500	~500	~2500	~2000	~5500																																	
Solar	0	0	~2500	~1200	~3700																																	
Biomass	~1000	0	~200	0	~1200																																	
Geothermal	0	0	~200	~200	~400																																	
Mini Hydro	~500	~200	~500	~500	~1700																																	
Assessment Means of validation	<ol style="list-style-type: none">1. Supporting news article to demonstrate construction of new expensive LNG has been submitted and validated.2. Evidence to prove growth & investment in Chilean mining sector has been submitted and validated.3. Appropriate working web-links have been included in the footnotes of PoA-DD.4. Supporting document for sectoral contribution & GHG emission for Chile has been submitted																																					

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Clarification Requests by validation team		
	<p>(from ministry of environment) and has been successfully validated.</p> <p>5. Supporting news letter from Chilean NCRE association has been submitted and validated for status of renewable projects in Chile.</p> <p>Hence it is acceptable.</p>	
Adjustment on project design	No changes were done in the project design.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	<p>As per GSP PDD, it has been indicated that proposed PoA is a voluntary action by managing entity, however confirmation letter is not submitted.</p> <p>Further, it was validated during the onsite visit that relevant applicable regulation by government of Chile is "Renewable Portfolio Standard" (RPS), however soft copy or hard copy of the same is not provided.</p>	Closed Ok
Requirement	VVS para 22 & para 192.	
Clarification Request	<p><u>Clarification Request No. 2</u></p> <p>Submit a valid confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity. PPs also need to submit the copy of RPS applicable to power generating units.</p>	
Response	<p>PoA10 document is a letter that confirms voluntary action from the coordinating/managing entity</p> <p>Relevant Law for Renewables in Chile is the following:</p> <p>Law N° 20.257: "Non Conventional Energy Sources (ERNC)", not (RPS).</p>	

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Clarification Requests by validation team		
	A description of this law has been included in section A.7 of the PoA DD. An explanation. Pages 76 – 80 from PoA11 explain the scope of the law.	
Assessment Means of validation	Confirmation on voluntary action of CME has been submitted and validated. Also applicable regulation for non-conventional energy sources have been submitted and validated for electricity market regulation. However its compliance will be checked at CPA level, hence it is accepted.	
Adjustment on project design	No changes were done in the project design.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Letter of approval from both party involved is not submitted for validation.	Closed Ok
Requirement	VVS para 38 & 45	
Clarification Request	<u>Clarification Request No. 3</u> PPs need to provide the LoA for the proposed PoA.	
Response	Project has already been approved. We should obtain the letter before dec 14	
Assessment Means of validation	LoA from Chilean DNA has been submitted and validated. Hence this issue is closed.	
Adjustment on project design	No changes were done in the project design.	

Clarification Requests by validation team		
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Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Technologies involved in the PoA has been explained in the GSP PoA-DD, however supporting documents for the following is not submitted: 1. Performance guarantee of 25 yrs mentioned in the GSP PoA-DD. 2. Conversion efficiency of PV modules.	Closed Ok
Requirement	VVS para 64	
Clarification Request	<u>Clarification Request No. 4</u> PP needs to provide documentary evidence to validate the following: 1. performance guarantee of 25 yrs mentioned in the GSP PoA-DD. 2. conversion efficiency of PV modules.	
Response	1. performance guarantee of 25 yrs mentioned in the GSP PoA-DD. PoA9 document refers to the module warranty and the 25 yrs mentioned. 2. conversion efficiency of PV modules. Since the conversion efficiency vary from time to time, the PoA wont contain a reference of the actual conversion efficiency of a solar module. That reference have been removed from the PoADD	
Assessment Means of validation	1. Performance guarantee of 25 yrs have been validated from Module Warranty Terms and Conditions provided by one of the possible supplier, First Solar. Hence it is deemed acceptable. 2. Revised PoA-DD has been validated with removed conversion efficiency of the solar module. It shall be validated at CPA level, hence it is acceptable.	
Adjustment on project design	No changes were done in the project design.	

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Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Implementation plan for the PoA & CPA has not been submitted by the CME.	Closed Ok
Requirement	VVS para 64	
Clarification Request	<u>Clarification Request No. 5</u> Project implementation schedule needs to be submitted.	
Response	Project implementation schedule for both the PoA and the CPA can be found on PoA20 document	
Assessment Means of validation	Project implementation plan for PoA & CPA has been submitted and validated. Hence it is acceptable.	
Adjustment on project design	No changes were done in the project design.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Information or confirmation on public funding is not provided.	Closed Ok
Requirement	Para 34 of CDM Project standard	
Clarification Request	<u>Clarification Request No. 6</u> PPs need to provide confirmation on the public funding for the proposed PoA.	
Response	Document PoA10 and PoA25 contains a letter that confirms that public funding from Annex 1 parties won't be used in the PoA or in any CPA under this PoA	
Assessment Means of validation	Relevant confirmation from Solar Chile and CQuest Capital have been submitted and validated to have no public funding from annex-1 countries. Hence it is acceptable.	

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Clarification Requests by validation team		
Adjustment on project design	No changes were done in the project design.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	IRR calculation template for CPA is not submitted for validation/	Closed Ok
Requirement	Para 120 (d) of VVS	
Clarification Request	<u>Clarification Request No. 7</u> PPs need to provide the xl spread sheet template that shall be used for the calculation of benchmark & equity IRR for CPAs.	
Response	A spreadsheet with a template for the calculation of project IRR, has been included among the documents available for DOE validation (POA23)	
Assessment Means of validation	IRR spreadsheet has been submitted and validated to be in line with 'Guidelines on the assessment of investment analysis', version 5.0.	
Adjustment on project design	No changes were done in the project design.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Documentary evidence to support the electricity mix figure indicated in the PoA-DD is not submitted for validation.	Closed Ok
Requirement	Para 64 of VVS	
Clarification Request	<u>Clarification Request No. 8</u>	

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Clarification Requests by validation team		
	PP needs to provide evidence for the data showing electricity generation mix indicated in the PoA-DD (under step 3(a) of section B. 1).	
Response	Two graphs associated with the electricity generation mix are included under step 3(a). One for the SIC and one for the SING. References for both of them can be found in PoA24 Document (pages 7 & 30)	
Assessment Means of validation	Electricity generation mix of SIC & SING grid has been validated from their Electricity sector report. Relevant submission is also validated to be valid during the time of validation. Hence it is deemed acceptable as it is also from an authenticated government source.	
Adjustment on project design	No changes were done in the project design.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Additionality description is incomplete and evidence for them is not submitted for validation, further it is not clarified how additionality of CPA has been covered in PoA-DD.	Closed Ok
Requirement	Para 7 of EB 70 annex 5	
Clarification Request	<u>Clarification Request No. 9</u> <ul style="list-style-type: none"> - PPs need to clarify or justify for the barriers pertaining to projects other regional grid in Chile (barriers are only presented for solar power plants connected to SING grid in Chile). Further, PPs need to clarify how CPA barrier test can be performed during CPA inclusion. - spot market price of US66\$/MWh during 2011 in SING. - spot market price of US96\$/MWh for second half of 2011. - selling price of PV electricity mentioned as 125\$/MWh. - PPs need to provide letters from investor for financial as discussed in the GSP PoA-DD 	
Response	<ul style="list-style-type: none"> - PPs need to clarify or justify for the barriers pertaining to projects other regional grid in Chile (barriers are only presented for solar power plants connected to SING grid in Chile). 	

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Clarification Requests by validation team		
	<p>The barriers analysis has been widened for including both the SIC & SING. Data regarding the energy mix and the solar penetration of both grids has been included.</p> <ul style="list-style-type: none"> - Further, PPs need to clarify how CPA barrier test can be performed during CPA inclusion. The analysis to be carried at PoA level consists in the barriers faced by solar development at a country or grid level. More evidence regarding local barriers that prevent solar development may be given at CPA level. Additionally it is important to note that the barriers faced by a particular CPA may vary, since the market is dynamic and conditions may change. - - spot market price of US66\$/MWh during 2011 in SING. US66\$/MWh was the spot market price towards the end of 2011. The reference for that price is contained in the PoA13 Document (page 34) - - spot market price of US96\$/MWh for second half of 2011. US96\$/MWh was the average spot market price for the whole year 2011. The reference for that price is contained in the PoA13 Document (page 34) - - selling price of PV electricity mentioned as 125\$/MWh This data has been removed from the PoADD. In exchange a better source was included: according to a study carried out by Bloomberg for the Chilean context any solar facility (either PV or CSP) has a levelized cost of energy (LCOE) of above 150 USD/MWh. The reference for that can be found in PoA14 (page 6) - PPs need to provide letters from investor for financial as discussed in the GSP PoA-DD PoA15 document contains letters from investors stating that the income from CERS is key for solar development in Chile. 	
Assessment	Barrier analysis has been extended to SIC grid as well, however it was clarified that detailed barrier analysis shall be done at CPA level. For a typical solar plant in Chile, following points	

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Clarification Requests by validation team		
Means of validation	<p>could be validated:</p> <ul style="list-style-type: none"> - Existing SING & SIC grid do not have any operational grid connected solar power plants, it has been validated from official report from SIC & SING. Further the same is also validated from latest newsletter from renewable association in Chile. - Typical barriers in development of solar power plants could be validated from market price of electricity, it was validated that spot market price was US 96 \$/MWh, however solar power plants could have a levelized cost of energy of 150 USD/MWh, it has been validated from the Bloomberg report. Hence it could be validated that a typical PV or CSP plant in Chile is not financially attractive as buying electricity from spot market of Chile. <p>Further, it was clarified that as per eligibility criteria, CPA will have to perform an investment analysis for CPAs under this PoA. Hence it is accepted.</p>	
Adjustment on project design	No changes are done in the PoA-DD	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP PoA-DD lacks information on common practice analysis for PoA or CPAs.	Closed Ok
Requirement	Para 7 of EB 70 annex-5	
Clarification Request	<p><u>Clarification Request No. 10</u></p> <p>PPs need to provide evidence to validate the common practice as mentioned in the PoA-DD. Also PPs need to provide a framework for CPA inclusion.</p>	
Response	<p>According to Tool for the demonstration and assessment of additionality V 07.00, the following steps need to be followed for common practice assessment:</p> <p>Sub-step 4a: The proposed CDM project activity(ies) applies measure(s) that are listed in</p>	

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Clarification Requests by validation team		
	<p>the definitions section of the Tool for the demonstration and assessment of additionality V 07.00.</p> <p>Sub-step 4b: The proposed CDM project activity(ies) does not apply any of the measures that are listed in the definitions section of the Tool for the demonstration and assessment of additionality V 07.00.</p> <p>Under this PoA all project activities will be PV solar projects. The former matches measure ii):</p> <p>ii) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies (example: energy efficiency improvements, power generation based on renewable energy);</p> <p>Since all for the projects under this PoA apply to the former measure the following stepwise approach shall be applied in each CPA as indicated in the guidelines on common practice V2.0.0</p> <p>Stepwise approach for common practice (to be applied in each CPA)</p> <p>Step 1: calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.</p> <p>Step 2: identify similar projects (both CDM and non-CDM) which fulfil all of the following conditions:</p> <p>(a) The projects are located in the applicable geographical area;</p> <p>(b) The projects apply the same measure as the proposed project activity;</p> <p>(c) The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;</p> <p>(d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;</p> <p>(e) The capacity or output of the projects is within the applicable capacity or output range cal-</p>	

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Clarification Requests by validation team		
	<p>culated in Step 1; In general, capacity values should be considered in the common practice assessment. The use of output values should be justified and consistently applied in the assessment.</p> <p>(f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.</p> <p>Step 3: within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number Nall</p> <p>Step 4: within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number Ndiff</p> <p>Step 5: calculate factor $F=1-N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.</p> <p>The proposed project activity is a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and $N_{all}-N_{diff}$ is greater than 3.</p> <p>Outcome of Step 4: If outcome of Step 4 is that the proposed project activity is not regarded as “common practice”, then the proposed project activity is additional. If outcome of Step 4 is that the proposed project activity is regarded as “common practice” then the proposed CDM project activity is not additional.</p>	
Assessment Means of validation	Detailed steps as per Guidelines on common practice have been validated as a part of PoA framework. Further, common practice analysis shall be performed using this framework at the time of CPA registration/inclusion. Hence it is accepted.	

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Clarification Requests by validation team		
Adjustment on project design	PoA-DD has been revised to include the common practice framework.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Eligibility criteria has been validated to be repeated twice in the PoA-DD.	Closed Ok
Requirement	Para 15 of EB 70 annex-5	
Clarification Request	<u>Clarification Request No. 11</u> PP needs to clarify why the following eligibility criteria is repeated twice in the eligibility section of PoA-DD: 1. related to start date of the CPA 2. Applicability to applied methodology.	
Response	Repeated eligibility criteria have been removed from the PoADD	
Assessment Means of validation	Revised PoA-DD has been validated to have appropriate eligibility criteria.	
Adjustment on project design	Repeated eligibility criteria have been removed.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Eligibility criteria has been validated to be repeated twice in the PoA-DD.	Closed Ok
Requirement	Para 134 of EB 65 annex-4	

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Clarification Requests by validation team		
Clarification Request	<u>Clarification Request No. 12</u> PPs need to clarify whether there are any host country requirements for environmental impact analysis of any solar power project.	
Response	Under Chilean legislation (Law 19300, General Bases of the Environment) every energy project of 3 MW or more has to undertake an EIA or EID. There is no special legislation for solar projects. Section E has been updated accordingly	
Assessment Means of validation	Revised PoA-DD has been validated to have details on host country environmental impact assessment regulation. It shall be validated for each CPA (as per eligibility criteria) during the CPA inclusion.	
Adjustment on project design	No changes were done in the project design.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	More information on stakeholder consultation is required including local regulation in the host country.	Closed Ok
Requirement	Para 138 of EB 65 annex-4	
Clarification Request	<u>Clarification Request No. 13</u> PPs need to clarify and include in PoA-DD whether stakeholder consultation process is required by regulation/laws in the host country. If yes, PP needs to document how this stakeholder meeting has to be carried out as per the regulations/laws.	
Response	The stakeholder consultation is a legal requirement under the process of a EIA. EID do not require by law to carry out a stakeholder consultation. Whether a project qualifies for EIA or EID depends entirely on the characteristics of the project. So far all solar projects in environmental evaluation in Chile have done EID.	

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Clarification Requests by validation team		
	<p>In case the project submits a EIA, its approval will be the proof that the stakeholder consultation was carried out in line with local legal regulation.</p> <p>Major requirements imposed by regulation for project proponents regarding stakeholder consultation are the following:</p> <ul style="list-style-type: none"> To publish a summary of the EIA in the Official Newspaper and in a local newspaper. This summary has to be revised by the Local Environmental Assessment Commission and has to contain at least the following information: responsible of the project, location, type of project, investment, main environmental issues and mitigation measures. Local community and local organization will have the right to make observations about the project, counting with 60 days for this purpose after the publication of the summary. 	
Assessment Means of validation	<p>Stakeholder requirement of the host country has been presented and validated using the local experience of DOE. It has also been validated that local stakeholder assessment shall be done at CPA level and is included as a part of eligibility criteria of PoA.</p> <p>Hence it is acceptable.</p>	
Adjustment on project design	PoA-DD has been revised to include stakeholder meeting as per local regulation as a part of eligibility criteria.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Project emission calculation from backup diesel genset is not considered. Hence clarification is required for CPA under this PoA.	Closed Ok
Requirement	Para 96 of VVS (EB 65 annex-4)	
Clarification Request	<p><u>Clarification Request No. 14</u></p> <p>PPs need to clarify whether there would be any backup diesel consumption for any CPA in-</p>	

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Clarification Requests by validation team		
	involved.	
Response	For all projects coming under this PoA, there will be no fossil fuel consumption.	
Assessment Means of validation	It has been transparently clarified that no fossil fuel consumption would be done at any CPAs. Hence it is acceptable	
Adjustment on project design	No changes done in the project design.	

Forward Action Requests by audit team		
	Comments and Results	
Issue		p Finding Closed IRL xx
Requirement		
Forward Action Request	No FARs	

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Definitions	
Shall / Should / May	In addition to the definitions contained in the Glossary of CDM terms, the following terms apply in the VVS (VVS/10): Shall is used to indicate requirements to be followed; Should is used to indicate that among several possibilities, one course of action is recommended as particularly suitable; May is used to indicate what is permitted.
Credible	Information is credible if it is authentic and is able to inspire belief or trust, and the willingness of persons to accept the quality of evidence. (VVS/17)
Reliable	Information is reliable if the quality of evidence is accurate and credible and able to yield the same results on a repeated basis. (VVS/17)
CAR	The DOE shall raise a corrective action request (CAR) if one of the following situations occurs (VVS/27): (a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable, verifiable and additional emission reductions; (b) The applicable CDM requirements have not been met; (c) There is a risk that emission reductions cannot be monitored or calculated.
CL	The DOE shall raise a clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. (VVS/26)
FAR	The DOE shall raise a forward action request (FAR) during validation to identify issues related to project implementation that require review during the first verification of the project activity. The DOE shall not raise a FAR that relates to the CDM requirements for registration (VVS/27)

Compilation and Resolutions of CARs, CLs and FARs

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP CPA-DD does not have details on the grid to which electricity shall be exported.	Closed Ok
Requirement	Para 20 & 22 of VVS (EB 65 annex 4).	
Corrective Action Request	<u>Corrective Action Request No.1</u> PPs need to update the CPA-DD to include project detail as per para 20 & 22 of VVS.	
Response	The PV project will be connected to the SING (northern grid) and the interconnection point will be a tap off close the Pozo Almonte substation, as showed in the grid drawing below:	

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The map illustrates the electrical grid in Argentina, with a focus on the Pozo Almonte Substation. The grid is composed of various high voltage lines (500kV, 220kV, 110kV, 66kV) and control centers (hydroelectric and thermoelectric). The Pozo Almonte Substation is located in the central-northern region of the country, near the border with Bolivia. The map also shows major cities, rivers, and neighboring countries (Peru, Bolivia).

Legend:

- LINEAS HV:**
 - 500kV (thick blue line)
 - 220kV (thick orange line)
 - 110kV (thick green line)
 - 66kV (thin blue line)
- CONTROLES HIDROELECTRICOS:** (square with diagonal lines)
- CONTROLES TERMoeLECTRICOS:** (red triangle)
- SUBESTACION:** (blue circle)

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Corrective Action Requests by validation team		
	"objective". ¹ An abstract of this information in English is available in CPA33 Document	
Assessment Means of validation	Revised CPA-DD has been validated to have details on the relevant grid to which power plant shall be connected. Further it has been validated using DIA weblink having project description. Hence it is accepted.	
Adjustment on project design	CPA-DD has been revised to indicate the grid connection details.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP CPA-DD needs to have details on environmental impact analysis.	Closed Ok
Requirement	Para 134 & 135 of VVS (EB 65 annex-4).	
Corrective Action Request	<u>Corrective Action Request No.2</u> PPs need to update the CPA-DD to include the details on the analysis of environmental impacts. PPs also need to provide the impact assessment to DOE for validation.	
Response	Details on the environmental impact declaration can be found at CPA2 (weblink) ² . The weblink contains all the documentation presented to the Environmental Service, including the arguments for the presentation of an Environmental Impact Declaration instead of a EIA (CPA30). The state of the process, Aprobado (approved) is indicated in the weblink. CPA4 is the official resolution of the Environmental Service authorizing the project.	
Assessment Means of validation	CPA-DD has been validated to have details on EIA of the project activity. Application details for EID approval have been validated from the provided web link, furthermore its approval from Chilean government has also been submitted and validated.	

¹ <http://seia.sea.gob.cl/documentos/documento.php?idDocumento=7095944>

² http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal.php?modo=ficha&id_expediente=7095939

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Corrective Action Requests by validation team		
Adjustment on project design	CPA-DD has been revised to indicate EIA details.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	GSP CPA-DD needs to have version number of applied methodology.	Closed Ok
Requirement	Para 22 of VVS (EB 65 annex-4).	
Corrective Action Request	<u>Corrective Action Request No.3</u> PPs need to update the section D.1 of the CPA-DD to indicate the version used by the methodology.	
Response	Approved consolidated baseline and monitoring methodology ACM0002 V 12.3: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", "Tool to calculate the emission factor for an electricity system" V 03.0.0 and "Tool for the demonstration and assessment of additionality" V 07.0.0	
Assessment Means of validation	CPA-DD has been validated to have details on applied methodology and latest tools. Hence it is acceptable.	
Adjustment on project design	CPA-DD has been revised with appropriate details.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Appropriate justification for applicability criteria needs to be mentioned.	Closed

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Corrective Action Requests by validation team		
Requirement	Applied methodology, ACM 0002	Ok
Corrective Action Request	<p><u>Corrective Action Request No.4</u></p> <p>PPs need to update section D.2 to include proper justification for first applicability criteria (This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant))</p>	
Response	<p>A proper justification for all relevant applicability criteria has been included in the CPA-DD.</p> <p>For the first applicability criteria the following has been added:</p> <p>La Tirana Solar will be a greenfield plant. The site is located in Region I in the north of Chile, approximately 4km southwest of the township of La Tirana, Chile. GPS coordinates are provided in this CPA. The project will be a grid connected solar pv project that will inject electricity to the grid through a tap off to the existing line between Pozo Almonte and Tamarugal substation. Evidence for coordinates and interconexion point are in the project description submitted to the Environmental Service³ and in the environmental resolution. (CPA2 and CPA4). For an abstract in English of the docs presented to the environmental service please check CPA33</p>	
Assessment Means of validation	Environmental Impact Statement submitted to SEA has been validated to have details on SING grid & GPS location, further intended installation capacity and expected power generation has also been validated as 30.24 MW & 90.34 GWh/annum respectively. This has also been validated from Energy prediction report (EPR) submitted.	
Adjustment on project design	Adequate justification for applicability criteria has been updated in the CPA-DD.	

³ http://seia.sea.gob.cl/expediente/expedientesEvaluacion.php?modo=ficha&id_expediente=7095939

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Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Appropriate justification for applicability criteria needs to be mentioned in the CPA-DD.	Closed Ok
Requirement	Applied methodology, ACM 0002 Version 12.3.0	
Corrective Action Request	<u>Corrective Action Request No.5</u> PPs need to indicate the reference document in the section D.2 for respective applicability criteria. Also provide the same to DOE for validation.	
Response	Criteria 1 Reference Documents : CPA2, CPA4 Criteria 2 Reference Document: CPA3 (Technical description of the plant) or CPA4 (Env. Resolution). Criteria 3,4,5 Reference Document: Project Description Submitted to DIA ⁴ CPA31 Criteria 6: not applicable for this CPA or any under this PoA See CPA 33 for Projects Description abstract in English for all Criteria	
Assessment Means of validation	Technical project description developed by Solar Chile & Empresa del Grupo ARA Worley Parsons has been submitted and validated. Intended capacity has also been validated. It was further validated that the same technical description has been submitted to SEA for environmental approval.	
Adjustment on project design	No changes are done in the design document.	

⁴ <http://seia.sea.gob.cl/documentos/documento.php?idDocumento=7095944>

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Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Appropriate justification for applicability criteria needs to be mentioned in the CPA-DD.	Closed Ok
Requirement	Applied methodology, ACM 0002 version 12.3.0	
Corrective Action Request	<u>Corrective Action Request No.6</u> PPs need to update the CPA-DD to indicate the correct applicability criteria (In the case of capacity additions, retrofits or replacements (except for capacity addition...)).	
Response	Correct applicability criteria has been included: In the case of capacity additions, retrofits or replacements (except for capacity addition projects for which the electricity generation of the existing power plant(s) or unit(s) is not affected): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity addition or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;	
Assessment Means of validation	Revised CPA-DD has been validated to have the correct applicability criteria as per applied methodology. Hence it is acceptable.	
Adjustment on project design	No changes are done in the design document.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Description of project boundary needs to be more elaborated as per EB 70 annex 06	Closed

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Corrective Action Requests by validation team		
Requirement	EB 70 annex 06	Ok
Corrective Action Request	<u>Corrective Action Request No.7</u> The DD shall be in line with the guidelines for completing this CPA DD	
Response	<p>The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM power plant is connected to.</p> <p><u>Project Boundary</u></p> <pre> graph TD subgraph Project_Boundary [Project Boundary] A[Solar Plant (Power Generator)] --> B[Inverter / Transformer] B --> C[Step-up Transformer] end C --> D[SING or SIC Grid Systems] E[Other Power Plants] --> D </pre>	
Assessment Means of validation	Revised CPA-DD has been validated to have a flow diagram with appropriate project boundary as per applied methodology. Hence it is acceptable.	
Adjustment on project design	CPA-DD has been validated to have flow diagram with project boundary.	

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Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Identification of baseline alternative needs to be elaborated as per applied methodology.	Closed Ok
Requirement	Applied methodology – Baseline alternative, ACM 0002 version 12.3.0	
Corrective Action Request	<u>Corrective Action Request No.8</u> PPs need to update the section D.4 of the CPA-DD to indicate how baseline scenario has been identified as per applied methodology (including relevant steps).	
Response	<p>According to the methodology ACM 0002“Consolidated baseline methodology for grid-connected electricity generation from renewable sources” V 12.3, The baseline scenario for a new grid connected renewable power plant like La Tirana is the following: “if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:</p> <ul style="list-style-type: none"> Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system” and outlined step by step in the PoA” <p>Section D.6 shows in detail the methodological choices and calculation for the CM and the emission reduction according to baseline above.</p>	
Assessment Means of validation	Revised CPA-DD has been validated to have the continuation of current scenario as the baseline scenario for the project activity (as per applied methodology). Hence it is acceptable.	
Adjustment on project design	CPA-DD has been validated to have transparent details on the identification of baseline scenario.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL

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South Asia

Corrective Action Requests by validation team		
Issue	Project timeline needs to be mentioned in the CPA-DD.	Closed ok
Requirement	Para 20 & 22 of VVS (EB 65 annex 4)	
Corrective Action Request	<u>Corrective Action Request No.9</u> PPs need to update CPA-DD to include the project time line or chronology to validate the start date for the CPA.	
Response	<p>The start date for the CPA will be 3/03/2013 (Expected PPA signature date) or the date of real action towards project implementation (whichever is later)⁵.</p> <p>The following is the project timeline presented and approved in the environmental service :</p>	
Assessment	Revised CPA-DD has been validated to have the project milestone and respective evidence for	

⁵ “real action” shall be characterized by an executed PPA or an executer purchase order for equipment. In any case, the date of real action shall not be prior to the starting date of 3/03/2013

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Corrective Action Requests by validation team		
Means of validation	each step has also been submitted and validated. The earliest real action from the timeline can be validated as 03/03/2013, the date on which legally CPA implementer would sign a binding contract for delivering electricity, Power Purchase agreement. Hence it is accepted.	
Adjustment on project design	CPA-DD has been revised to have a realistic start date of the CPA.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Detailed steps used to calculate emission factor is not mentioned in the CPA-DD.	Closed Ok
Requirement	Tool to calculate the emission factor for an electricity system	
Corrective Action Request	<u>Corrective Action Request No.10</u> PPs need to update the CPA-DD to include all the required steps which CPA shall follow to calculate grid emission factor (as per "Tool to calculate the emission factor for an electricity system").	
Response	All the steps for the calculation of the grid emission factor have been included in the CPA-DD D.6.1 describes all the steps as per "Tool to calculate the emission factor for an electricity system"). D.6.3 includes the actual calculation of the emission factor of the SING	
Assessment Means of validation	Detailed step used to calculate grid emission factor has been validated in the revised CPA-DD; xl spreadsheet for the calculation of combined margin emission factor has been validated to be in line with applied Tool to calculate the emission factor for an electricity system. Hence it is acceptable.	
Adjustment on project design	CPA-DD has been revised to have detailed steps for calculation of emission factor.	

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Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Parameters used to calculate combined margin emission factor is not included in the CPA-DD.	Closed Ok
Requirement	Tool to calculate the emission factor for an electricity system	
Corrective Action Request	<u>Corrective Action Request No.11</u> PPs need to identify and include the values for parameters used to calculate grid emission factor (either for monitoring or for ex-ante based on the methodological choices used to calculate grid emission factor).	
Response	Values for the following parameters to be reported exante have been included in the CPA-DD EG_y , $FC_{i,y}$ $NCV_{i,y}$ $EFCO2,i,y$ <ul style="list-style-type: none"> m,y CM, BM, OM Values for the following parameters to be monitored have been included in the CPA-DD $EG_{PJ,y}$	
Assessment Means of validation	Relevant parameters have been validated in the revised CPA-DD, further supporting documents from CEDEC SING is also validated for these parameters.	
Adjustment on project design	CPA-DD has been revised to indicate the parameters required for emission factor.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL

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Corrective Action Requests by validation team		
Issue	Location of energy meter and correct unit is not included in the CPA-DD.	Closed Ok
Requirement	Para 198 of VVS (EB 65 annex 4).	
Corrective Action Request	<u>Corrective Action Request No.12</u> <ul style="list-style-type: none"> - PPs need to clarify the location of energy meter which shall be used to determine the net electricity generation for a CPA? - PPs need to use the correct unit for $EG_{facility,y}$ as per applied methodology (it is MWh). 	
Response	<p>The main meter of the power plant will be located at the interconnection point, where the electricity is injected to the grid.</p> <p>Unit for $EG_{facility,y}$ has been updated as MWh</p>	
Assessment Means of validation	Revised CPA-DD has been validated to have correct monitoring unit and meter location as per applied methodology. Hence it is acceptable.	
Adjustment on project design	CPA-DD has been revised to indicate the location of energy meter and correct unit of monitoring parameter.	

Corrective Action Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Assessment of additionality needs to be documented appropriately as per eligibility criteria documented in PoA-DD	Closed Ok
Requirement	Para 7 of EB 70 annex 5.	
Corrective Action Request	<u>Corrective Action Request No.13</u> <p>PPs need to provide assessment of additionality of CPA based on eligibility criteria of PoA.</p>	
Response	See section D.5 in CPADD. All the eligibility criteria have been met by La Tirana Solar.	

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Corrective Action Requests by validation team

In case of addittionality this is how the CPA complies

Additionality of the project:

The following represents the financial case for la Tirana Solar. This analysis represents the step 2 of “Tool for the demonstration and assessment of additionality” and it will be used to assess the additionality of the project through a benchmark analysis. As specified in the PoA DD the financial indicator used in this analysis was pre-tax project IRR.

The following table represents the inputs used in the financial model:

Item	Unit	Value	Data Source
In- stalled Ca- pacity	MW	30.24	EPR
Plant Factor	%	36.5	EPR
Opera- tion Life	Years	25	EPR
Energy produc- tion	GWh / year	96.8 (year 1)	EPR

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Corrective Action Requests by validation team						
	Elec- tricity price	USD/ GWh	116.5	(Hourly spot prices) http://cdec2.cdec-sing.cl/pls/portal/cdec.menu_costos_marg_reales.s how, also available in PoA23		
	Total Invest- ment	USD	90,00 0,000. 00	<p>The Investment values are based on First Solar's estimations. They are the EPC contractors in La Tirana Project and have provided a signed letter with this value (CPA53). Both CAPEX and OPEX costs for projects in Chile reflect projected cost reductions, size of plant, interconnection costs, local labor costs and technological improvements based on the First Solar roadmap. The current all in CAPEX which include all of the costs needed to generate electricity is estimated at US\$ 3 per watt AC.</p> <p>The former figure can be substantiated by an independent study from Bloomberg on Renewables in Chile that shows the same capex cost for PV in 2012.</p> <p>Legend:</p> <ul style="list-style-type: none"> Coal CCGT PV cSi residential roof PV cSi commercial/BIPV PV cSi utility-scale Wind onshore utility-scale Solar Thermal 		

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	O&M costs	USD/ kwac- year	68.85	The O&M values are derived and calculated based on local labor, material, replacement costs and meteorological specifics from the site. The cost estimates are based on data collected locally in Chile and from First Solar who are currently overseeing the O&M of a large portfolio of solar power plants in the US. They have provided a signed letter validating this value (CPA53). The O&M costs are currently based on best guess estimates for Chile as there are no plants built. CPA 50 contains an overview of O&M tasks that are anticipated during operation.
	Panels derate Factor	%	0,7	EPR
	Discout Rate	%	10	Same as benchmark
	The results of the financial model for the pre-tax IRR are the following: Results			
Project IRR (Ex CERS)		8.2%		
Project IRR (Inc CERS at 8.36 USD/Cer)		8.8%		

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Corrective Action Requests by validation team

Additionally a sensibility analysis was carried out. Key variables of the project were simulated to be $\pm 10\%$ of their original (expected) values. The results of this exercise are the following

	Project IRR - 10%	Project IRR + 10%
Energy Price	6.6%	9.7%
CAPEX	9.5%	7.1%
OPEX	8.5%	7.9%
Output	6.6%	9.7%

The details of this evaluation were made available for the DOE in Document POA23.

As established in the PoA DD the benchmark to be used to compare the project IRR is obtained from Chilean electric law (DFL 4/2006, article 174). According to this decree the official discount rate for electric projects is 10% in real terms⁶. This is used to determine Node Prices, transmission line and distribution investments, therefore it represents an opportunity cost for the investment in electricity generation. It should be noted that the presented Benchmark is a conservative rate, applicable to the Chilean power sector where most of the projects investments come from large companies that benefit from scale economies.

In every case the Project IRR of La Tirana Solar is below 10% and therefore below the benchmark for energy projects in Chile, even in the most favorable scenarios.

The CERS selling price was calculated in 8.36 USD⁷ as an average from the whole crediting period.

⁶ http://www.cne.cl/archivos_bajar/DFL_N4.pdf

⁷ Point Carbon Forecast for Green CERs

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Corrective Action Requests by validation team

The selling energy price for the project is still unknown; therefore the financial model was developed with the best available information to date. The price for the model was calculated using hourly spot prices from 2011, available in the CDEC SING website⁸, that were matched with the solar farm energy generating profile. These will be the prices that the La Tirana Solar would face in the spot market.

The resulting average price for 2011 was 106.5 USD/MWh. This combined with the incentives provided by the law N° 20.257: "Non Conventional Energy Sources", that adds around 10 USD/MWh results in a final price of 116.5 USD/MWh. The results shown previously are calculated based on this price.

More details about the SING Spot 2011 a prices were made available for the DOE in document POA23.

Common Practice Analysis

Stepwise approach for common practice (to be applied in each CPA)

Step 1: calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.

The capacity for this CPA is 30,24 MW. The +50% capacity range is 15.12 MW – 45.36 MW

Step 2: identify similar projects (both CDM and non-CDM) which fulfill all of the following conditions:

⁸ http://cdec2.cdec-sing.cl/pls/portal/cdec.pck_costo_margin_pub.f_consulta_costo_mg

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Corrective Action Requests by validation team		
	<p>(a) The projects are located in the applicable geographical area;</p> <p>(b) The projects apply the same measure as the proposed project activity;</p> <p>(c) The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;</p> <p>(d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;</p> <p>(e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1; In general, capacity values should be considered in the common practice assessment. The use of output values should be justified and consistently applied in the assessment.</p> <p>(f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.</p> <p>Step 3: within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number Nall</p> <p>There is no project complying with the conditions of step 2, therefore Nall = 0</p> <p>Step 4: within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number Ndiff</p> <p>Step 5: calculate factor $F=1-N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.</p>	

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South Asia

Corrective Action Requests by validation team

Steps 2, 3, 4 and 5

According to the conditions above we have to identify projects complying with the following:

Connected to SIC or SING, renewable energy projects, with capacity of 15.12 MW – 45.36 MW that started commercial operation after 20 April 2012

Nevertheless the former won't be necessary because $N_{diff} = N_{all}$. (there is no PV project injecting energy to the SIC or SING grids).

There is no PV project that started commercial operation before the PoADD and CPADD were publish for global stakeholder consultation (20 April 2012). The following graph from ACERA (Chilean Renewables Association) supports the former. It shows the development stage of all projects above 3 MW in the SIC and the SING.

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Corrective Action Requests by validation team		
	<p>Source ACERA 2012 (October 2012)⁹</p> <p>According to the former $N_{diff} = N_{all}$, therefore $F=0$ and $N_{all} - N_{diff} = 0$,</p> <p>As established in the guidelines on common practice V 02.0.0 the project activity is a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and $N_{all} - N_{diff}$ is greater than 3.</p> <p>La Tirana Solar is not a “common practice” and therefore it is additional.</p>	
Assessment Means of validation	Following input parameters have been validated:	

⁹ <http://www.acera.cl/wp-content/uploads/2012/01/Newsletter-Octubre-ACERA.pdf>

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Corrective Action Requests by validation team

	Item	Validated figures for specific CPA		
	Installed Capacity	Specific CPA, "PV Project in La Tirana, Chile", propose to install 30.25 MW solar PV plant, it has been validated from the following sources: 1. EPR from First Solar Inc., IRL #06, 24, contacted supplier for project activity. 2. Further this parameter is also cross-checked from government approved DIA, IRL #26		
	Plant Factor or Energy production	Expected generation from specific CPA has been validated from Energy Prediction report by First Solar Inc, IRL #06, 24, as follows: For first year: 96.8 GWh Further degradation rate of 0.70% has also been validated for following years of energy production.		
	Operation Life	Lifetime of 25 yrs for specific CPA has been validated using EPR, IRL #06, 24. Further, it has also been cross-checked with 25 yr limited Power output warranty proposed by the prospective provider, Solar Chile, IRL #07.		
	Electricity price	Electricity price for the project activity has been validated from: 1. CEDEC SING online database of hourly spot value for 2011, IRL #10. 2. Profile of energy generation of CPA has been validated from energy prediction report which provides expected hourly generation by CPA (IRL #24). Respective hourly generation & hourly spot price for 2011 has been used to calculate the electricity price for CPA, which is validated to be 106.5 US\$/MWh (IRL #20). Considering energy generation profile of CPA is validated as a pre-		

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Corrective Action Requests by validation team				
		<p>cise measure as hourly price is different during every hour and is higher during day time, which is more applicable to solar PV plant, further it is validated that 106.5 US\$/MWh higher compared with yearly average hourly price which is 96 US\$/MWh. Hence considering energy generation profile of CPA is validated to be more precise and accurate.</p> <p>Further as per local legal regulation, renewable projects are validated to be entitled for 10 US\$/MWh incentive (IRL #47), hence it is added to the market spot price validated above.</p> <p>The final validated electricity price for specific CPA is 116.5 US\$/MWh, IRL #20.</p>		
	Investment cost & O&M cost	<p>For the specific CPA, the investment cost and O&M cost has been sourced from prospective supplier of the project activity, detailed investment cost along with O&M cost has been submitted by First Solar, EPC contractor, IRL #39.</p> <p>Further, this investment cost is cross-checked with an independent study from Bloomberg on Renewables in Chile that shows the same capex cost (US\$/watt AC) for PV in 2012 (IRL #11). Hence it is validated as appropriate and reasonable value.</p>		
	Benchmark	<p>10% (for pre-tax project IRR)</p> <p>The applied benchmark has been validated from a publication by the Chilean Ministry (IRL 23). Based on its local and sectoral expertise, TÜV SÜD confirms that the applied benchmark is appropriate and applicable to the program.</p> <p>The chosen benchmark is suitable to be compared with the selected type of IRR, which is line with EB 62, annex 5, §12.</p>		
	<p>Pre-tax project IRR has been validated to be 8.2%, using the input values which has been validated as indicated above. Further, it has been validated that specific CPA does not have any real action so far and according to validated timeline, its start date would be 03/03/2013,</p>			

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Corrective Action Requests by validation team		
	hence the validated investment analysis has been carried out using latest available input values for all parameters at the time of validation (IRL #17).	
Adjustment on project design	CPA-DD has been revised to have the investment analysis as per required eligibility criteria of PoA-DD.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	<p>Documentary evidence to validate the following figures given in GSP CPA-DD needs to be provided:</p> <ol style="list-style-type: none"> 1. Intended capacity of 22MW mentioned in the GSP CPA-DD 2. Expected generation of 68,065 MWh from the project 3. Power purchase agreement for the generated electricity. 	<p>Closed Ok</p>
Requirement	VVS para 189 (EB 65 annex 4).	
Clarification Request	<p><u>Clarification Request No. 1</u></p> <p>PPs need to provide the documentary evidence to validate the following:</p> <ol style="list-style-type: none"> 1. Intended capacity of 22MW mentioned in the GSP CPA-DD 2. Expected generation of 68,065 MWh from the project 3. Power purchase agreement for the generated electricity. 	
Response	<ol style="list-style-type: none"> 1. Intended capacity of 22MW mentioned in the GSP CPA-DD <p>The intended capacity of the plant has been corrected to 30.24 MW. Documentary Evidence for this capacity can be found in CPA1 document.</p> <p>Initial capacity of 22 MW was defined for a BID from a mining company that Solar Chile lost. That was the initial design consideration. Since that BID was lost the capacity was augmented to take advantage of the whole potential of La Tirana's site</p>	

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Clarification Requests by validation team

2. Expected generation of 68,065 MWh from the project

The output has also been corrected. The expected output is now 90,34 GWh per year.
Documentary Evidence for this capacity can be found in CPA1 document.

For further clarification the measures of capacity and energy output that are included in the different supporting documents can be found in the following table

	Letter (CPA1)	EPR (PoA27)	DIA (CPA33)	CPA DD
Capacity	30.24 Mwac	30.24 MWac(cell H4)	30.24 MWac	30.24 MWac
Energy Production Year 1	96.8 GWh	96.8 GWh (cell L3)	-----	-----
Energy Production lifetime years average	-----	90.34 GWh	90.34 GWh	90.34 GWh

3. Power purchase agreement for the generated electricity.

The electricity generated from La Tirana CPA will be sold either to the spot market or to a private customer under a Power Purchase Agreement that is to be determined.

Assessment
Means of validation

1. Intended capacity of the CPA has been validated from the EPR by First Solar Inc., further it has also been checked from approved DIA for the project activity.

2. Expected generation from specific CPA has been validated from Energy Prediction report by First Solar Inc, IRL #06, 24, as follows:

For first year: 96.783 GWh

Further degradation rate of 0.70% has also been validated for following years of energy pro-

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Clarification Requests by validation team		
	duction.	
	3. It was validated that CPA implementer has not signed any PPA so far.	
Adjustment on project design	No changes are done in the CPA-DD	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Records to verify the ownership & compliance to local legal regulation is not been submitted.	Closed Ok
Requirement	VVS para 20 & para 20. (EB 65 annex 4).	
Clarification Request	<u>Clarification Request No. 2</u> PP needs to provide documentary evidence (ownership, licenses, contracts etc.) to substantiate that CQC & Solar Chile can carry out the implementation of CPA	
Response	Solar Chile has the land rights to the La Tirana site. The rights were acquired through a private transaction that gives Solar Chile the option to use the land for a Solar Plant. This option is documented in CPA32. Additionally Solar Chile has obtained approval from the Tarapaca Environmental Service. Env. Resolution can be found in CPA 4	
Assessment Means of validation	Land rights for execution of the project activity has been successfully validated, further the details of the project and project ownership is also validated from the environmental approval provided by government of Chile.	
Adjustment on project design	No changes in CPA-DD.	

List of Findings - Compilation and Resolutions

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Project Title: PV Project in La Tirana, Chile

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Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Documentary evidence for assumptions given in the CPA-DD is not provided to DOE for validation.	Closed Ok
Requirement	VVS para 20 & para 20. (EB 65 annex 4).	
Clarification Request	<p><u>Clarification Request No. 3</u></p> <p>PPs need to provide the documentary evidence to validate the following with regards to technical details:</p> <ol style="list-style-type: none"> 1. Warranty of 25 yrs for solar panels. 2. Average degradation of 1% per year 3. yield capacity factor of more than 35% <p>Further, also provide us the source of technical information provided for the project activity.</p>	
Response	<ol style="list-style-type: none"> 1. Warranty of 25 yrs for solar panels. Documentary evidence for this can be found in CPA10 document 2. Average degradation of 1% per year The degradation rate of the panel s estimated in 0.7% per year. Documentary evidence for this can be found in CPA1 document 3. yield capacity factor of more than 35% Documentary evidence for this can be found in CPA1 document 4. Further, also provide us the source of technical information provided for the project activity: Technical description of the project is available in CPA3 	

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Project Title: PV Project in La Tirana, Chile

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Clarification Requests by validation team		
Assessment Means of validation	<p>1. Warranty of 25 yrs has been successfully validated from 'Module Warranty Terms and Conditions' provided by First solar. Hence it is acceptable.</p> <p>2 &3. Average degradation rate has been successfully validated from EPR provided by supplier, First Solar Inc.</p> <p>4. PP needs to provide reference to project specific technical information (not general information referred above).</p>	
Adjustment on project design	No changes done in CPA-DD.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Documentary evidence for assumptions given in the CPA-DD is not provided to DOE for validation.	Closed Ok
Requirement	VVS para 20 & para 20. (EB 65 annex 4).	
Clarification Request	<p><u>Clarification Request No. 4</u></p> <ul style="list-style-type: none"> - PPs need to justify the basis considering which 1st July 2013 is considered as the start date of the CPA. Also provide the timeline or chronology for the events related to CPA. - PPs need to submit the documentary evidence to validate the operational lifetime mentioned in the CPA-DD. 	
Response	<ul style="list-style-type: none"> - PPs need to justify the basis considering which 1st July 2013 is considered as the start date of the CPA. Also provide the timeline or chronology for the events related to CPA. <p>The start date for the CPA will be 3/03/2013 (Expected PPA signature date) or the date of real</p>	

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Project Title: PV Project in La Tirana, Chile

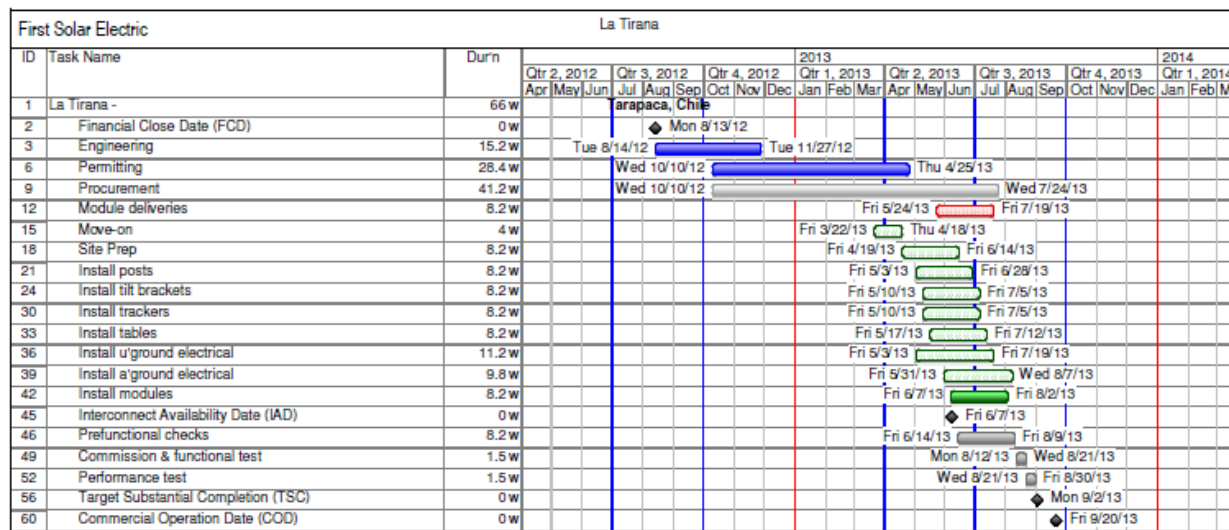
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Clarification Requests by validation team

action towards project implementation (whichever is later)¹⁰.

The following is the project timeline presented and approved in the environmental service :



- PPs need to submit the documentary evidence to validate the operational lifetime mentioned in the CPA-DD.

The operational lifetime of the project is 25 years. This can be validated by consulting the template for IRR calculation (PoA23), which uses this timeframe. Additionally this is consistent with the 25 years warranty for the panel provided by the manufacturer (CPA10)

¹⁰ “real action” shall be characterized by an executed PPA or an executer purchase order for equipment. In any case, the date of real action shall not be prior to the starting date of 3/03/2013

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Project Title: PV Project in La Tirana, Chile

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Clarification Requests by validation team		
Assessment Means of validation	<ul style="list-style-type: none"> - Start date of the CPA has been validated as 03/03/2013, which is the expected date on which PPA will be signed for the project activity. - 25 yrs warranty for the solar panel has been validated from the manufacturer declaration, first Solar, hence it is acceptable. 	
Adjustment on project design	CPA-DD has been revised to have a transparent start date of CPA.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Emission reduction calculation sheet has not been submitted to DOE for validation.	Closed Ok
Requirement	Para 72 of VVS (EB 65 annex 4)	
Clarification Request	<u>Clarification Request No. 5</u> PPs need to provide the calculation spreadsheet for the grid emission factor.	
Response	Please consult CPA27 Document for the calculation of the grid emission factor	
Assessment Means of validation	Calculation spreadsheet for the combined margin emission factor has been submitted and validated to be in line with applied tool to calculate emission factor. Hence it is acceptable.	
Adjustment on project design	No changes are done in CPA-DD.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Information on financing plan for the project is required.	Closed

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Project Title: PV Project in La Tirana, Chile

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Clarification Requests by validation team		
Requirement	Para 20 & 22 of VVS (EB 65 annex 4)	Ok
Clarification Request	<u>Clarification Request No. 6</u> PP needs to provide information on project financing plan.	
Response	The IDB, EXIM, IFC, and local banks have expressed interest in this project, nevertheless we cannot provided more information regarding the financial plan at this point. Also no public funding will be used in this CPA (check PoA25)	
Assessment Means of validation	Calculation spreadsheet for the combined margin emission factor has been submitted and validated to be in line with applied tool to calculate emission factor. Hence it is acceptable.	
Adjustment on project design	No changes are done in the CPA-DD	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Letter of approval needs to be submitted	Closed Ok
Requirement	Para 38 of VVS (EB 65 annex 4)	
Clarification Request	<u>Clarification Request No. 7</u> PPs need to provide the host country approval for the pro-posed PoA & CPA.	
Response	LoA for CQC and Solar Chile has been submitted for validation (PoA21)	
Assessment Means of validation	LoA from Chilean DNA has been submitted and validated Hence it is acceptable.	
Adjustment on project design	No changes are done in the CPA-DD	

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Project Title: PV Project in La Tirana, Chile

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Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Environmental impact approval needs to be submitted.	Closed Ok
Requirement	Para 134 & 135 of VVS (EB 65 annex 4)	
Clarification Request	<u>Clarification Request No. 8</u> PPs need to provide the approval of DIA (Environmental Impact declaration) from SEA (Environmental Assessment Service).	
Response	EID resolution is available at CPA4	
Assessment Means of validation	Approval of DIA from SEA has been submitted and validated, project details are also confirmed from the approved DIA. Hence it is acceptable.	
Adjustment on project design	No changes are done in CPA-DD	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Documents required for local stakeholder meeting needs to be submitted.	Closed Ok
Requirement	Para 138 & 139 of VVS (EB 65 annex 4)	
Clarification Request	<u>Clarification Request No. 9</u> PPs need to provide the documentary evidence to validate the local stakeholder meeting conducted for the proposed CPA.	
Response	Documentary evidence of the stakeholder meeting can be found in documents CPA 11, 12, 13, 14 and 15.	

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Project Title: PV Project in La Tirana, Chile

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Clarification Requests by validation team		
Assessment Means of validation	Invitation letters, attendance sheet and stakeholder meeting report has been submitted and validated, further video recording of the stakeholder meeting has also been submitted and validated. It was also validated from the video and minutes of the meeting that all questions by raised by local stakeholder were replied satisfactorily. Hence it is acceptable.	
Adjustment on project design	No changes are done in the CPA-DD	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Documents required validating eligibility criteria needs to be submitted.	Closed Ok
Requirement	Para 15 & 16 of EB 70 annex 5	
Clarification Request	<p><u>Clarification Request No. 10</u></p> <p>PPs need to provide the following documents to validate the eligibility criteria:</p> <ol style="list-style-type: none"> 1. detailed project plan to validate the eligibility criteria no. 3 or other equivalent document. 2. documents related to stakeholder & environmental impact analysis (for eligibility criteria 4) 3. Location details on existing solar PV project in CDM pipeline. 4. Electricity generation mix for SING grid as mentioned in the CPA-DD. 	
Response	<ol style="list-style-type: none"> 1. detailed project plan to validate the eligibility criteria no. 3 or other equivalent document. <p>Documentation to validate criteria no. 3 can be found in CPA3 and CPA1. The first one is the project description submitted to the environmental service. The second one is a letter signed by First Solar, the manufacturer of the panels, confirming some technical features of la Tirana CPA.</p> <ol style="list-style-type: none"> 2. documents related to stakeholder & environmental impact analysis (for eligibility criteria 4) 	

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Clarification Requests by validation team		
	<p>Environmental approval for the EID can be found in CPA4, while documents related to the stakeholder consultation are available in CPA 11, 12, 13, 14 and 15.</p> <p>3. Location details on existing solar PV project in CDM pipeline.</p> <p>There are currently no registered PV projects in Chile. There is a set of five solar projects, by Element Power and one by Atacama Solar, which are currently in the validation phase. All of this proposed project would be located in the northern grid of Chile. However, the GPS and nearby towns are different and all the projects are seeking registration as a stand-alone CDM projects, therefore are not part of the PoA. Verification of the coordinates of those projects can be done in the following websites:</p> <p>Atacama Solar Photovoltaic Power Plant Project¹¹</p> <p>30 MW Lagunas Solar Farm¹²</p> <p>30 MW Altos de Pica Solar Farm¹³</p> <p>30 MW Pintados Solar Farm¹⁴</p> <p>30 MW Pica Solar Farm¹⁵</p> <p>30 MW Salar de Huasco Solar Farm¹⁶</p> <p>The solar plants mentioned have no yet been commissioned, which can be verified in CDEC SING website¹⁷</p>	

¹¹ <http://seia.sea.gob.cl/busqueda/buscarProyectoAction.php?modo=ficha&nombre=atacama%20solar§or=®iones=&presentacion=undefined&buscar=true>

¹² http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal.php?id_expediente=6781398&idExpediente=6781398&modo=ficha

¹³ http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal.php?id_expediente=5056556&idExpediente=5056556&modo=ficha

¹⁴ http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal.php?id_expediente=5056556&idExpediente=5056556&modo=ficha

¹⁵ http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal.php?id_expediente=5056556&idExpediente=5056556&modo=ficha

¹⁶ http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal.php?id_expediente=5106501&idExpediente=5106501&modo=ficha

¹⁷ http://cdec2.cdec-sing.cl/portal/page?_pageid=33,44050&_dad=portal&_schema=PORTAL

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Clarification Requests by validation team		
	<p>4. Electricity generation mix for SING grid as mentioned in the CPA-DD.</p> <p>The mix was mentioned as an argument for First of its kind. First of its kind will not be used as an argument for the additionality of La Tirana Solar CPA. Additionality will be proven with a financial analysis of the project. Please check the CPA for details regarding this issue.</p>	
Assessment Means of validation	<p>1. DIA description submitted to SEA has been validated; further EPR provided by First Solar is also validated. Hence this issue is closed.</p> <p>2. Documents related to stakeholder consultation & DIA has been validated with appropriate project description, hence this issue is closed.</p> <p>3. Details on other grid connected Solar PV project in Chile has been validated from the CEDEC SING website, further exact GPS coordinates have been validated from SEA website indicating details of respective project developed in Chile. Hence it is acceptable and this issue is closed.</p> <p>4. Electricity generation mix for SING grid has been validated from CEDEC Sing website, hence it is acceptable and this issue is closed.</p>	
Adjustment on project design	No changes are done in CPA-DD.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Documents required validating eligibility criteria needs to be submitted.	Closed Ok
Requirement	Para 15 & 16 of EB 70 annex 5	
Clarification Request	<p><u>Clarification Request No. 11</u></p> <p>PPs need to clarify and provide documentary evidence to demonstrate that the project shall be</p>	

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Clarification Requests by validation team		
	supplying electricity to the grid.	
Response	CPA3 & CPA31 provides evidence that demonstrates that the project will be supplying electricity to the grid.	
Assessment Means of validation	Project description by Solar Chile and Empresa del Grupo ARA WorleyParsons submitted to SEA for approval has been validated. Further, project description has also be validated online from SEA website. It can be validated from these documents that CPA intends to supply the electricity to regional grid which is SING grid. Hence it is acceptable.	
Adjustment on project design	No changes are done in CPA-DD.	

Clarification Requests by validation team		
	Comments and Results	Conclusion and IRL
Issue	Further clarification is required on the justification for assumption of project emission.	Closed Ok
Requirement	Para 96 of VVS (EB 65 annex 4).	
Clarification Request	<u>Clarification Request No. 12</u> PPs need to clarify whether there would be any backup diesel consumption for the proposed CPA.	
Response	Under section D.6.1 it is confirmed that this CPA won't use any fossil fuels	
Assessment Means of validation	It is confirmed from the CPA implementer that there would not be any backup diesel generator for the project activity. Hence it is acceptable and this issue is closed.	
Adjustment on project design	No changes are done in CPA-DD	

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Forward Action Requests by audit team		
	Comments and Results	
Issue		p Finding Closed IRL xx
Requirement		
Forward Action Request	No FARs	

Annex 2

Information Reference List


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Project title: PV Project Development in Chile


Interviewed Persons during onsite assessment:

Name	Function	Company
Cristian Sjogren	CEO	Solar Chile
Koichi Arimitsu	COO	Solar Chile
Tomás Steinacker	Consultant	CQC representative
Angela Reinoso	Executive	DNA
Ximens Canoino	Regional Director	SEA


Ref No.	Author/Editor / Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
0.	UNFCCC Webpage	"Name of the project" http://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/PNHJCCF6XLDIUN53DPEIFIITXZFKEW/view.html	20/04/2012	-
1.	BN America	Reference for "Expensive LNG Terminals" http://www.bnamericas.com/news/oilandgas/GDF_Suez_official:_Mejillones_LNG_price_tied_to_project_cost	14/10/2008	To validate the reference for LNG market.
2.	Bloomberg	Reference for "100B Mining Investment" http://www.bloomberg.com/news/2012-04-24/power-shortage-hurts-chile-s-100-billion-copper-push.html	24/04/2012	To validate upcoming investment in Chile for mining as introduced in introduction of PoA-DD.
3.	ACERA	Status of Solar - Acera Newsletter	01/03/2012	To validate the

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Ref No.	Author/Editor / Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
				renewable power status in Chile
4.	International Institute for Sustainable development	Carbon Intensity - Opportunities and Domestic Barriers to Clean Energy Investment in Chile 2010	01/06/2010	To validate the barriers for entering clean energy market in Chile
5.	Comisión Nacional de Energía (CNE)	PoA Boundaries (SIC and SING Grids) - NCRE In the Chilean Electricity Market	01/10/2009	To validate the boundary for SIC & SING grids
6.	First Solar Inc	EPR confirmation letter_FS-signed	15/10/2012	To validate the energy generation and degradation.
7.	First Solar Inc	Module Warranty	15/10/2012	To validate the warranty of module
8.	CQC	CME Letter for No Annex 1 Countries Funding and Voluntary Action	04/05/2012	To validate no annex-1 funding.
9.	CEDEC SING	CDEC SING Electricity Generation by Fuel	12/10/2012 (submission to DOE)	To validate the input for emission factor
10.	Systep report	SIC&SING Spot Prices (Systep Report)	01/03/2012	To validate the spot price of the market.
11.	Bloomberg	PV Cost (Bloomberg Report)	01/04/2011	To cross-check the cost of PV installation in Chile.
12.	AURUS	Investors CDM Support Letter	12/10/2012 (submission to DOE)	To validate the access to

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Ref No.	Author/Editor / Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
				finance barrier
13.	CEDEC SING	Reference for Base load Energy for Mines (CDEC SING Demand Control Report)	26/03/2012	To validate the demand or load by mines.
14.	CEDEC SING	CDEC SING Generation Units Commercial Dates and Installed Capacity	12/10/2012 (submission to DOE)	To validate the input for emission factor
15.	Government of Chile	Environmental Regulation for Energy Projects	12/10/2012 (submission to DOE)	To validate the requirement for environmental impact assessment
16.	C-Quest Capital LLC	Management System Documentation – CME Manual	05/11/2012	To validate the management system required for PoA
17.	Solar Chile	Project Implementation Schedule	12/10/2012 (submission to DOE)	To validate the implementation plan for specific CPA
18.	Chilean DNA	LoA from DNA	13/12/2012	To validate the host country approval
19.	C-Quest Capital LLC	Template for Emission Factor & CERS Calculation Calculation of Emission factor & CER for Specific CPA	12/10/2012 (submission to DOE)	To validate the calculated emission factor and CER
20.	C-Quest Capital LLC	Template for the Calculation of project IRR Project IRR calculation for specific CPA	12/10/2012 (submission to DOE)	To validate the project IRR.
21.	Systep report	PoA24 SIC&SING Generation Mix (Systep Report)	12/10/2012 (submission to DOE)	To validate the emission factor.

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Ref No.	Author/Editor / Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
22.	Solar Chile	Solar Chile Letter for No Annex 1 Countries Funding (Blank template for future CPAs based on Solar Chile also)	27/07/2012	To validate no public funding for specific CPA.
23.	Government of Chile	PoA26 Bench marking Evidence DFL_N4 article 174 Law	05/02/2007	To validate the benchmark for the investment analysis
24.	First Solar Inc	CDM_EPR-516b External Summary Sheet_La Tirana by supplier	12/10/2012 (submission to DOE)	TO validate the detail energy profile & generation for the project activity.
25.	SEA – Government of Chile	DIA Application Web link http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal.php?id_expediente=7095939&idExpediente=7095939&modo=ficha	12/10/2012 (submission to DOE)	To validate the uploaded project details to SEA for environmental approval.
26.	Commission De Evaluation I Region De Tarapaca	RCA (Environmental Service Resolution)	13/11/2012	Approval by Chilean government for environmental clearance.
27.	Solar Chile	Land Purchase Option Please note – the land is not bought yet, only option to purchase.	07/11/2011	To validate open option given to Solar Chile for buying land.
28.	Solar Chile	Public Consultation Invitation Letter	12/10/2012 (submission to DOE)	To validate the stakeholder invitation letter
29.	Solar Chile	Public Consultation La Tirana Attendees	12/10/2012 (submission to DOE)	To validate the attendance during the stakeholder meeting

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Ref No.	Author/Editor / Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
30.	Solar Chile	Public Consultation Pozo Almonte Attendees	12/10/2012 (submission to DOE)	To validate the attendance at Allmonte area
31.	Solar Chile	Public Consultation Report	12/10/2012 (submission to DOE)	To validate the stakeholder report
32.	Solar Chile	Stakeholder Consultation Video Web link	12/10/2012 (submission to DOE)	To validate the video of stakeholder meeting
33.	DNA	Approval for DNA requests	12/10/2012 (submission to DOE)	To validate the approval from DNA
34.	DNA	DNA approved projects	12/10/2012 (submission to DOE)	To validate the approval from DNA
35.	Supplier	ISO 9001 2008 Certificate of Registration FFO	12/10/2012 (submission to DOE)	To validate the quality and certificate of supplier
36.	Supplier	ISO 14001 2004 Certificate of Registration PBG	12/10/2012 (submission to DOE)	To validate the quality and certificate of supplier
37.	Supplier	PD-5-603-03 Series 3 CE Declaration (1)	12/10/2012 (submission to DOE)	To validate the quality and certificate of supplier
38.	Supplier	PD-5-610 MY - ISO 9001 Certificate of Registration KLM	12/10/2012 (submission to DOE)	To validate the quality and certificate of supplier
39.	First Solar Inc	CPA53 CAPEX OPEX Confirmation_First Solar (2) - La Tirana	31/10/2012	To validate the Capex and opex used in investment analysis
40.	UNFCCC	Applied methodology, ACM 0002 ver 12.3.0	20/04/2012 (downloaded from	Applied methodology

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Ref No.	Author/Editor / Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
			UNFCCC)	
41.	PPs	MOC	20/12/2012 (submitted to DOE)	
42.	GTD INGENIEROS CONSULTOR ES LTDA	Interconnection study with grid	01/09/2011	To validate the connection point with grid
43.	UNFCCC	Tool to calculate the emission factor for an electricity system v.3.0.0	15/11/2012 (Date of download from UNFCCC)	To validate the methodology used for emission factor
44.	PPs	Final PoA-DD & CPA-DD version 5.0	2/12/2012	Uploaded to EB
45.	Ministry of energy	National Energy balance for NCV of fuels used in grid connected power plants	12/10/2012 (submission to DOE)	NCV used in calculation of emission factor
46.	IPCC	Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories	12/10/2012 (submission to DOE)	To validate the fuel emission factor used in calculation of combined margin emission factor.
47.	Government of Chile	NCRE Incentives (20.257 Law) - NCRE In the Chilean Electricity Market	12/10/2012 (submission to DOE)	To validate incentive program for renewable energy.
48.	Agreement	Agreement between CME & CPA implementer (Solar Chile)	07/05/2012 (date of validation)	To validate the contract between CME & Solar Chile.
49.	UNFCCC	"Tool for the demonstration and assessment of additionality", version 7.0	15/11/2012 (Date of download from UNFCCC)	To validate the additionality approach of

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Ref No.	Author/Editor / Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
				the PoA-DD.

Annex 3

Appointment Certificates

CERTIFICATE OF APPOINTMENT

Mr. Maharjan, Bhai Raja fulfills the requirements of the Certification Body "Environment and Energy" of TÜV SÜD South Asia Pvt Ltd to participate in audits.

Qualification applicable to					
Standard	CDM	GS	VCS	VER	Other
Date	23.03.12				

Qualification as						
Status	Trainee	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date		23.03.12	23.03.12	23.03.12		1.2, 2.1, 3.1

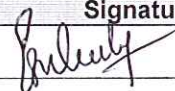
Other qualification						
Country Expertise						
Region	1	2	3	4	5	Other
Date	23.03.12					
Further countries						
Financial Expertise						
Date	23.03.12					

Qualification in technical areas	
Technical Area	Date
1.2_Energy generation from renewable energy source	23.03.12
2.1_Electricity distribution	23.03.12
3.1_Energy demand	23.03.12

This appointment is valid until 28.02.2013 and is bound by internal requirements of the Certification Body "Environment and Energy" of TÜV SÜD South Asia Pvt Ltd.

In case of loss of validity of this certificate as per result of an assessment according to internal procedures or due to any other reason, it will be properly communicated to you.

Your Certificate has the internal reference no. CB-IND-CCP-0027/001.

Date	Signature
21.11.2012: Extension of Validity	



South Asia

CERTIFICATE OF APPOINTMENT

Mr. Tekchandani, Praveen fulfills the requirements of the Certification Body "Environment and Energy" of TÜV SÜD South Asia Pvt Ltd to participate in audits.

Qualification applicable to					
Standard	CDM	GS	VCS	VER	Other
Date	05.07.12				

Qualification as						
Status	Trainee	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date		05.07.12	05.07.12			

Other qualification						
Country Expertise						
Region	1	2	3	4	5	Other
Date	05.07.12					
Further countries						
Financial Expertise						
Date						

Qualification in technical areas	
Technical Area	Date

This appointment is valid until 28.02.2013 and is bound by internal requirements of the Certification Body "Environment and Energy" of TÜV SÜD South Asia Pvt Ltd.

In case of loss of validity of this certificate as per result of an assessment according to internal procedures or due to any other reason, it will be properly communicated to you.

Your Certificate has the internal reference no. CB-IND-CCP-0043/001.

Date	Signature
21.11.2012: Extension of Validity	



South Asia

CERTIFICATE OF APPOINTMENT

Mr. Aparicio Alcazar, Luis Miguel fulfills the requirements of the Certification Body "Environment and Energy" of TÜV SÜD South Asia Pvt Ltd to participate in audits.

Qualification applicable to					
Standard	CDM	GS	VCS	VER	Other
Date	08.08.12				

Qualification as						
Status	Trainee	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	08.08.12					14.1

Other qualification						
Country Expertise						
Region	1	2	3	4	5	Other
Date		08.08.12				
Further countries						
Financial Expertise						
Date						

Qualification in technical areas	
Technical Area	Date
14.1_Forestry	08.08.12

This appointment is valid until 28.02.2013 and is bound by internal requirements of the Certification Body "Environment and Energy" of TÜV SÜD South Asia Pvt Ltd.

In case of loss of validity of this certificate as per result of an assessment according to internal procedures or due to any other reason, it will be properly communicated to you.

Your Certificate has the internal reference no. CB-IND-CCP-0004/001.

Date	Signature
21.11.2012: Extension of Validity	

CERTIFICATE OF APPOINTMENT

Mr. Roy, Bratin fulfills the requirements of the Certification Body "Environment and Energy" of TÜV SÜD South Asia Pvt Ltd to participate in audits.

Qualification applicable to					
Standard	CDM	GS	VCS	VER	Other
Date	22.11.12				

Qualification as						
Status	Trainee	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date		22.11.12	22.11.12	22.11.12	22.11.12	1.1, 1.2, 3.1, 4.10, 13.1

Other qualification						
Country Expertise						
Region	1	2	3	4	5	Other
Date	22.11.12					
Further countries						
Financial Expertise						
Date	22.11.12					

Qualification in technical areas	
Technical Area	Date
1.1_4.10_Thermal energy generation	22.11.12
1.2_Energy generation from renewable energy source	22.11.12
3.1_Energy demand	22.11.12
13.1_Waste handling and disposal	22.11.12

This appointment is valid until 28.02.2013 and is bound by internal requirements of the Certification Body "Environment and Energy" of TÜV SÜD South Asia Pvt Ltd.

In case of loss of validity of this certificate as per result of an assessment according to internal procedures or due to any other reason, it will be properly communicated to you.

Your Certificate has the internal reference no. CB-IND-CCP-0038/001.

Date	Signature
22.11.2012	