

VALIDATION REPORT

INVERSIONES EOLICAS DE OROSI DOS, S.A.
(IEDO)

OROSI WIND POWER PR

OJECT

Report No: 8621 – 12/028

Date: 2012-10-10

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Validation Report:	Report No.	Rev. No.	Date of 1st issue:	Date of this rev.
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Project:	Title:	Initial PDD Version:	Final PDD Version	
	Orosi Wind Power Project	2012-02-03	2012-06-14	
Client:	Inversiones Eolicas de Orosi Dos, S.A. (IEDO)	Client ref:	Mr. Leonel Umaña	
Project Participant(s):	Host Party:	Other involved parties:		
	Costa Rica	n.a.		
Applied methodology/ies:	Title:	No.:	Scope / TA:	
	Consolidated baseline methodology for grid-connected electricity generation from renewable sources, Ver. 12.3.0	ACM0002	1 / 1.2	
Validation team / Technical Review and Final Approval	Validation Team:	Technical review:	Final approval:	
	Raul G. Mitre (TL) Abraham Garza Alvarez	Emilio Martin	Alexandra Nebel	
Expected Emission reductions: [t CO_{2e}]	Expected emission reductions over the first crediting period:	(Expected) project starting date:		
	534,461 t CO _{2e}	2012-04-30		
Confidential content:	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Summary of Validation Opinion:	<input checked="" type="checkbox"/> Positive validation opinion		<input type="checkbox"/> Negative validation opinion	
	<p>In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The project is in line with all relevant host country criteria (Costa Rica) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of Costa Rica vide the Letter of Approval (LoA) dated 2012/06/29. <input checked="" type="checkbox"/> The project additionality is sufficiently justified in the PDD. <input checked="" type="checkbox"/> The monitoring plan is transparent and adequate. <input checked="" type="checkbox"/> The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 534,461 tCO_{2e} are most likely to be achieved within the (1st renewable) crediting period. <input checked="" type="checkbox"/> The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation. 			
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Abbreviations

ARESEP	Regulatory Authority of Public Service – “ <i>Autoridad Reguladora de los Servicios Públicos</i> ”
BAU	Business as usual
BOT	Build-Operate-Transfer
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CNFL	National Company of Electricity
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
DIA	Environmental Impact Declaration
DNA	Designated National Authority
DSE	Sectoral Direction of Energy – “ <i>Direccion Sectorial de Energia</i> ”
EF	Emission Factor
EIA	Environmental Impact Assessment
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GME	Globelec Mesoamerica Energy
GSC	Global Stakeholders Consultation
ICE	Costa Rica’s Institute of Electricity - <i>Instituto Costarricense de Electricidad</i>
IEDO	Inversiones Eolicas de Orosi Dos S.A. (IEDO)
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MINAET	Ministry of Environment, Energy and Telecommunications
n.a.	Not applicable
O&M	Operation & Maintenance
PDD	Project Design Document
PLF	Plant Load Factor
QC/QA	Quality control/Quality assurance
SETENA	Environmental National Technical Secretary
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability criteria

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual^{VVM}, carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 01.2, EB 55).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

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

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data		
Project title	Orosi Wind Power Project		
Project size	<input checked="" type="checkbox"/> Large Scale <input type="checkbox"/> Small Scale		
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input checked="" type="checkbox"/>	1	Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/>	2	Energy distribution
	<input type="checkbox"/>	3	Energy demand
	<input type="checkbox"/>	4	Manufacturing industries
	<input type="checkbox"/>	5	Chemical industry
	<input type="checkbox"/>	6	Construction
	<input type="checkbox"/>	7	Transport
	<input type="checkbox"/>	8	Mining/Mineral production
	<input type="checkbox"/>	9	Metal production
	<input type="checkbox"/>	10	Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/>	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/>	12	Solvents use
	<input type="checkbox"/>	13	Waste handling and disposal
	<input type="checkbox"/>	14	Afforestation and Reforestation
	<input type="checkbox"/>	15	Agriculture
Applied Methodology	ACM0002, Ver. 12.3.0		
Technical Area(s)	1.2 Renewable Energies		
Crediting period	<input checked="" type="checkbox"/> Renewable Crediting Period (7 y) <input type="checkbox"/> Fixed Crediting Period (10 y)		
Start of crediting period	2014-01-01		

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	Costa Rica	Inversiones Eolicas de Orosi Dos, S.A. (IEDO)

2.3 Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	Costa Rica
Region:	Guanacaste Province
Project location address:	Comunity of Quebrada Grande, Municipality of Liberia
Latitude*:	10° 52' 23.26" N
Longitude*:	85° 26' 53.88" W

*This corresponds to the coordinates of one point of the wind park as stated in Section A.4.1.4 of the PDD.

2.4 Technical Project Description

The technical key data are provided in table 2-4 below

Table 2-4: Technical data of the project activity

Parameter	Unit	Value
Turbine Type	-	Gamesa
Installed capacity	MW	50
Plant Load Factor	%	49.41%
Number of turbines	-	25
Capacity per turbine	MW	2.0
Cut-in wind speed	m/s	4
Cut-out wind speed	m/s	25
Rotor diameter	m	80

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- Desk review of the PDD and supporting documents
- Validation planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation

The sequence of the validation is given in the table 3.1 below:

Table 3.1: Validation sequence

Topic	Time
Assignment of validation	2011/12/07
Submission of PDD for global stakeholder commenting process	2012/02/10
On-site visit date	2012/03/12-15
Draft reporting finalised	2012/03/15
Final reporting finalised	2012/05/06
Technical review on final reporting finalised	2012/10/10

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the validation can be provided,

- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities, a validation team, consisting of one team leader and 1 additional team members, as well as the Technical Review personnel were appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Host country Competence	On-site visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Raul Gonzalez Mitre	BRTÜV	TL	LA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Abraham Garza Alvarez	BRTÜV	TM	A	<input type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Martin Emilio	TÜV NORD, Germany	TR	LA	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	-
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Alexandra Nebel	TÜV NORD, Germany	FA	SA	<input checked="" type="checkbox"/>		<input type="checkbox"/>	-

¹⁾ TL: Team Leader; TM: Team Member; TR: Technical review; OT: Observer-Team; OR: Observer-TR; FA: Final approval

²⁾ GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

³⁾ GHG auditor status (at least Assessor)

⁴⁾ As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

⁵⁾ In case of verification projects

A) Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

B) No team member

Technical Experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

In order to qualify further personnel the project team was accompanied by observers and/or trainees as indicated in the table above. They are usually not considered as team members.

Statements of competence for the above mentioned team members are enclosed in annex 6 of this report.

3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments are received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 5 of this report.

3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

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

The validation protocol is described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	Validation Team Comment	Reference	Draft Conclusion	Final Conclusion
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

Figure 1: Validation protocol table

The completed validation protocol is enclosed in Annex 1 to this report.

3.6 Review of Documents

The published PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Site Visit and Follow-up Interviews

The validation team has carried out a site visit in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

Due to the fact that it is a Greenfield project a site visit was not carried out. All relevant project documentation has been provided in the PP's offices.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives Project consultant	<ul style="list-style-type: none"> • Chronological description of the project activity with documents of key steps of the implementation. • Current status of plant design • Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project • Host Government Approval • Approval procedures and status • Monitoring and measurement equipment and system. • Financial aspects • Crediting period • Project activity starting date • CER allocation / ownership • Baseline study assumptions • Additionality • Sustainable development issues • Monitoring • Analysis of local stakeholder consultation • Roles & responsibilities of the project participants

Interviewed Persons / Entities	Interview topics
	w.r.t. project management, monitoring and reporting <ul style="list-style-type: none"> • National Legislation • Editorial issues of the PDD

A comprehensive list of all interviewed persons is part of section 7 'References'.

3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the validation team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised:

Table 4-1: Summary of CARs, CLs and FARs issued

Validation topic ¹⁾	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) <ul style="list-style-type: none"> • Project specification • Technical project description • Participation • Contribution to sustainable development • PDD editorial aspects • Technology to be employed 	1	1	-
Project Baseline, Additionality and Monitoring Plan (B) <ul style="list-style-type: none"> • Application of the Methodology • Project Boundary • Baseline identification • Calculation of GHG emission reductions <ul style="list-style-type: none"> Project emissions Baseline emissions Leakage • Additionality determination • Monitoring Methodology • Monitoring Plan • Project management planning 	6	2	-
Duration of the Project / Crediting Period (C)	-	2	-
Environmental impacts (D)	-	-	-
Stakeholder Comments (E)	-	-	-
SUM	7	5	-

¹⁾ The letters in brackets refer to the validation protocol

Table 4-2: PDD versions used for assessments

Version Nr.	Assessment Round
PDD v. 1 (Published)	On site visit assessment

Version Nr.	Assessment Round
PDD v. 2	DOE Assessment #1
PDD v. 3 (Final)	DOE Assessment # 2

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

Finding:	CAR A1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	At the time of validation the letter of approval is missing.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	LoA has been provided.		

Finding:	CAR A1
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Costa Rica, the host country, has ratified the Kyoto Protocol on 09th August 2002, and as a non Annex I party meets all relevant participation requirements.</p> <p>The Costa Rican DNA assigned for CDM is the MINAE (Ministry of Environment and Energy), which has been checked directly from the UNFCCC website.</p> <p>In accordance with the CDM M&P at the time of making the PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration the approval of the Parties involved is required.</p> <p>Letter num. DM-468-2012 signed and stamped by the DNA of Costa Rica on 2012/06/09 was provided by the PP and assessed by the validation team. The project name "Orosi Wind Power Project" stated in the LoA is the same as the project activity name stated in the PDD submitted for global stakeholder's consultation.</p> <p>The DNA listed in the UNFCCC web site - MINAE - has issued the LoA of the project activity. The LoA confirms that Costa Rica is a Party to the Kyoto Protocol, the participation of Inversiones Eólicas de Orosí Dos, S.A. (IEDO) is voluntary and the project activity contributes to the sustainable development in the country.</p> <p>As there is only one party involved, no other approvals are required for this project. This is consistent in the PDD and in the LoA.</p> <p>According to the Letter of Approval^{/LoA/} issued by the DNA of Costa Rica, the project activity contributes to the sustainable development of Costa Rica.</p> <p>The project participant contributes to the sustainable development through clean and renewable electricity generation, contributing to fiscal accounts though the payment of taxes and increases opportunity for employment and contribution for local economy.</p> <p><u>CAR is closed.</u></p>

Finding:	CAR A1
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CL A2
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Description of the baseline scenario, as identified in section B.4 is missing.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The section has been revised accordingly.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Description of the baseline scenario as identified in section B.4 was included in section A.2 of the PDD. It can be concluded that the PDD has been duly filled in accordance with the latest guidance. <u>CL is closed.</u>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CL B1
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Section B.3 Table 2 for the project boundary are not as per the applicable methodology ACM0002 Version 12.3.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Revised as per the latest version of the methodology ACM0002 (version 12.3 was recently issued and considered in the updated version of the PDD).
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Correction was done in section B.3 of the PDD. The project boundary is now as per the applicable methodology ACM0002 Version 12.3. <u>CL is closed.</u>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CAR B2
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Some value of the parameters were wrongly applied or no evidence were provided to crosscheck the value applied:</p> <ol style="list-style-type: none"> 1. Information regarding CAPEX is not disaggregated according to evidence checked during on site visit. 2. Evidence of the following items was not provided during on site visit: <ul style="list-style-type: none"> • Calculation of interest during construction and Fees and commissions during construction (item 9 of the Validation Report, Annex 3) • Lender and other financial costs (item 11 of the Validation Report, Annex 3) was not provided during on site visit. 3. Calculation to demonstrate O&M costs (item E of the Validation Report, Annex 3) was not provided during on site visit. 4. Calculation to demonstrate the interest and payment rates (6.40% & 9.05%) was not provided during on site visit (item F of the Validation Report, Annex 3). 5. Further clarification is required regarding the method used to calculated depreciation (item H of the Validation Report, Annex 3)

Finding:	CAR B2
<p>Corrective Action #1</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The following corrective actions have been performed:</p> <ol style="list-style-type: none"> 1. An extra sheet with the CAPEX information has been added to the "Orosi additionality calculations rev2.xlsx" 2. The following evidence was provided: <ul style="list-style-type: none"> • A spreadsheet with the calculation of interest and fees and commissions during construction ("Interest and fees.xlsx"). • The actual lender costs for the Cerro de Hula wind project ("CdH lender costs.xlsx"), the experience of which was used to determine the expected lender costs for Orosi • An offer from BICSA showing that the assumed facility cost for the environmental performance bond is conservative ("BICSA Bond Offers.pdf") 3. A breakdown of the yearly O&M costs was shown, with the corresponding audited financial statements of 2009 and 2010 for the Plantas Eolicas SRL wind farm ("Orosi O&M budget.xlsx" and "Informe Plantas Eólicas 2010.pdf"). 4. A spreadsheet with the interest rate calculations was shown ("Interest and fees.xlsx"), and the relevant evidence was provided ("Ex-Im.pdf", "CABEI.pdf" "CIRR rate date.pdf" and "EXIM Credit CdH.pdf") 5. An error in the calculation was corrected and evidence was provided for the depreciation used (IAS_16_PPE.pdf).

Finding:	CAR B2
<p>DOE Assessment #1</p> <p><i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Correction was done in the investment analysis calculation spread sheet. Information regarding CAPEX was disaggregated according to evidence checked during on site visit. Furthermore missing evidence was provided and clarification was given. For further assessment of financial parameters please refer to Annex 3.</p> <p>Nevertheless further clarification/correction is required:</p> <ol style="list-style-type: none"> 1. Tab "Timeline" not in line with PDD, it still needs a revision 2. Tab "base case" and tab "O&M -10%": line 63 and line 72: error, missing reference, please revise 3. Tab "base case": line 53: "working capital" is not linked to any other cells and there is no definition or explanation of this value. Please clarify 4. Depreciation calculation is based on ALL costs (insurance costs, interests, fees, studies, etc.) which belong to the "total investment" (tap "CAPEX"). Clarification is required. <p><u>CAR remains open.</u></p>

Finding:	CAR B2
<p>Corrective Action #2</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> 1. Tab "Timeline" was corrected accordingly. 2. Tab "base case" and tab "O&M -10%" were revised and corrected accordingly. 3. The working capital being used is the same as the one used in the offer presented to ICE. The calculation of the working capital has been included as a separate tab "WC" in the "Orosí additionality calculations Ver-3 14.06.12". The reason, for including these cash flows, is as follows: It is expected that Lenders will request the Project to maintain 2 types of reserves: a Maintenance Reserve Account (MRA) and a Debt Service Reserve Account (DSRA). The required yearly MRA level is based on the expected next 6 months of operating expenses, as well as on an appropriate balance for major maintenance, as determined by an independent technical advisor. The expected operating expenses are directly taken from the "Inputs" tab of the Orosí additionality calculations Ver-3 14.06.12", and the required major maintenance balance (MMRA) has been based on GME's experience at Cerro de Hula (50% of the balance for this 100 MW project has been assumed). A DSRA of 6 months for project finance is common practice, which is why it was assumed in the analysis. The DSRA level in this case is the amount of interest and amortization the Project will pay each 6 months during the loan period (See Bicsa Offer Orosi.pdf). The changes in MRA and DSRA levels create movements in working capital. Initially, the reserves are funded by debt and equity and this has been included in the capital expenditures of the Project. Afterwards, there are MRA additions and withdrawals, and when the loans end the reserves are no longer required by the Lenders and the Project is able to distribute the cash to its shareholders. 4. After 20 years the whole plant will be transferred to ICE, which means that it needs to be fully depreciated. That's why all CAPEX items are depreciated. Furthermore, according to IAS 16, any costs directly related to the location of the asset at the place and the conditions necessary to enable it to operate as intended by management meets the condition to be recognized as an asset that will be valued at cost for the depreciation. Thus, any cost involved in the investment should be valued for depreciation.

Finding:	CAR B2
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. Tab "Timeline" was corrected and now it is in line with PDD. 2. Tab "base case" and tab "O&M -10%": line 63 and line 72: were corrected. 3. Tab "base case": line 53: "working capital" is now linked to its source in other sheet. Furthermore clarification was provided by the PP. Working capital considers two reserves for liquidity purposes. The first reserve is for O&M (maintenance reserve account). The second reserve is for debt and amortization payments (debt service reserve account). This is normally required by banks which provide a loan. The banks normally require 6 months of reserve which is the common practice for this kind of requirements. Furthermore including working capital is conservative as the IRR is higher. Evidence^{/FD-27/} was provided and checked by the validation team to demonstrate such 6 months of reserve considered. No discrepancies were identified. 4. According to International Accounting Standard No. 16 (IAS 16) – Property, Plant and Equipment (item 16-b) <i>"The cost of the elements of tangible fixed assets includes: any costs directly related to the location of the asset at the place and the conditions necessary to enable it to operate as intended by management."</i> Therefore depreciation based on all related costs (insurance costs, interests, fees, studies, etc.) necessary to enable it to operate is considered as appropriate. <p><u>CAR is closed.</u></p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CAR B3
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Resulting IRR applying the sensitivity analysis is missing in section B.5.

Finding:	CAR B3
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Correction was done.
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Resulting IRR applying the sensitivity analysis was included in section B.5. of the PDD <u>CAR is closed.</u>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CAR B4		
Classification	<input checked="" type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Common practice analysis. Installed capacity of San Lorenzo Pocosol Power Plant (26,000 MW) is incorrect (observed 39,700).		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Correction was done in section B.5 (Step 4. Common practice analysis) of the PDD Orosi – Ver 2.		
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The installed capacity of San Lorenzo Pocosol Power Plant was corrected. Section B.5 step 4 common practice analysis: According to Excel fil, tab “DSEdata”, there is a private company “Paralela Eolica” with several projects with a total capacity of about 50 MW. These projects couldn’t be found in the tab “common practice”. Please clarify. <u>CAR remains open.</u>		

Finding:	CAR B4
<p>Corrective Action #2</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>In Costa Rica there are only five wind projects generating up to 2010: Tejona (19,800 KW) owned by ICE, and four private projects: P.EÓLICAS, S.A. (19,800 KW), AEROENERGÍA (6,400 KW), MOLINOS DE VIENTO ARENAL S.A. (MOVASA) (20,000 KW) and P.E. Guanacaste (25,000 KW) as shown in ARESEP web pages: http://www.aresep.go.cr/docs/GEN_PRIVADA_2010.xls and http://www.aresep.go.cr/docs/CAPACIDADXFUENTE_1996-2010.xls</p> <p>“Paralela Eólica” is not a private company; DSE has clustered the private plants that are generating according to the framework of the Law 7200 entitled “Autonomous Parallel Generation Law” (“Ley de Generación Autónoma Paralela”), which are P.EÓLICAS, S.A., AEROENERGÍA and MOLINOS DE VIENTO ARENAL S.A. (MOVASA), considering a capacity of 23,370 KW, 6,750 KW and 20,000 KW respectively, for a total of 50,120 KW. As it is shown, DSE uses data provided by ICE which is slightly different from ARESEP mentioned above (please see email from DSE provided as evidence).</p> <p>Even though, the information is slightly different, it doesn’t affect the common practice analysis, as none of them are in the applicable range for common practice analysis (+/- 50%) = 25,000 – 75,000 KW.</p> <p>Furthermore, the excel file mentioned above “CAPACIDADXFUENTE”, Tab CEPAL, column “F cells 95-97” shows the exact same capacity of those plants.</p>
<p>DOE Assessment #2</p> <p><i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Further and detailed clarification was provided regarding “Paralela Eolica” item. According to the PP is not a private company but a cluster of private plants generating according to Law 7200. Those plants corresponds to P.Eolicas (23,370 KW), Aeroenergia (6,750 KW) and Molinos de viento (20,000 KW). The total capacity is 50,120 KW. A slightly difference is identified between data from ICE and data from DSE (Sectorial Direction of Energy). The E-mail from Arturo Molina (amolina@dse.go.cr) was checked. The common practice analysis is not affected due to this small difference.</p> <p>CAR is closed.</p>

Finding:	CAR B4
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CAR B5
Classification	<input checked="" type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Mistakes were detected in the emission factor calculation spread sheet:</p> <p><u>Tab "Operating Margin":</u></p> <ol style="list-style-type: none"> Option A2 was not used to calculate the EF for Guapiles/Orotina plant as data of fuel consumption is not available for year 2008. Clarification is required. NCV of diesel is incorrect 36.64TJ/m³ (observed 36.46 TJ/m³)
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<ol style="list-style-type: none"> Option A2 is now used in the "Baseline CR – EF 2010 v2.xlsx" and explanation was introduced in the PDD Orosí – Ver 2 (Section B.6.1) NCV value was corrected in the "Baseline CR – EF 2010 v2.xlsx" and in the PDD Orosí Ver 2 (Section B.6.2)
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Mistakes detected in the emission factor calculation spread sheet were corrected by the PP. the validation team has checked the whole calculation and it was identified as correct. Concluding that emission reductions would be real, measurable and give long-term benefits related to the mitigation of climate change.</p> <p>The calculation of lambda is not included in the "Baseline" xls-file although information is included in the PDD (Annex 3).</p> <p><u>CAR remains open.</u></p>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The calculation of lambda is now included in the "Baseline" xls-file, version 3.</p>

Finding:	CAR B5
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The calculation of lambda is now included in the excel calculation spread sheet. The verification team assessed calculation. No discrepancies were identified. Calculation of Lamba is according to the Tool for calculating the emission factor of an electricity system (Version 6).</p> <p><u>CAR is closed.</u></p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CL B6
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>According to the Guidelines for completing the PDD, the following information is missing in section B.7.1:</p> <ul style="list-style-type: none"> Description of measurement methods and procedures to be applied: indication of local standards for calibration including calibration frequency, quantity of meters, function (main/back up), type (uni/bidirectional) and location of meters. QA/QC procedures to be applied: detailed description of the cross-check procedures according to the applied methodology.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Section B.7.1 has been expanded as suggested by the DOE.</p>
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Description of measurement methods and procedures to be applied including QA/QC procedures were included in section B.7.1 of the PDD.</p> <p>All means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation has been described clearly and in line with the applied methodology.</p> <p><u>CL is closed.</u></p>

Finding:	CL B6
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CAR B7
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The following information is missing in section B.6.1 of the PDD:</p> <ul style="list-style-type: none"> Steps to calculate Lambda. Description of option chosen is missing as per step 6 of the applied tool. Description of the elements of the formula as per step 6 of the applied tool.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Correction was done in section B.6.1 of the PDD Orosí – Ver 2
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Information missing in section B.6.1 was included in PDD. All means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation has been described clearly and in line with the applied methodology.</p> <p><u>CAR is closed.</u></p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CAR B8
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>According to the Guidelines for completing the PDD, version 07, section B.6.3: “<u>Document how each equation is applied, in a manner that enables the reader to reproduce the calculation.</u>” Correction is required.</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Section B.6.3 has been revised to further clarify which equation was used in each case.

Finding:	CAR B8
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Information and data on how each equation is applied to calculate the emission factor has been included in section B.6.3 of the PDD.</p> <p>CAR is closed.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CL C1
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>During on site visit it was evidenced that starting date of the project activity was wrongly referenced in version 1 of the PDD. Correction is necessary.</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Correction was done in section C.1.1 of the PDD Orosí – Ver 2.</p>

Finding:	CL C1
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The project starting date reported in section C.1.1 of PDD was 2012/03/15 which was the expected date when ICE will approve the interconnection to the grid and therefore trigger the obligation stated in the agreement with GAMESA.</p> <p>Furthermore the PP ratified the Non Binding Supplier Commitment Letter between GAMESA and Inversiones Eolicas de Orosi Dos, S.A. on 2011/09/01 due to new negotiation were done between parts. This is the value used in the investment analysis calculation.</p> <p>However, it has been revealed during validation site visit and interviews with representatives of PP that such agreement signed on 2011/05/05 with Gamesa and then ratified on 2011/09/01 is a non binding agreement and therefore it does not represent a significant financial commitment.</p> <p>Finally the validation team concludes that the project starting date has not yet occurred. At the time of on site visit the estimated project starting date is 2012/04/30 which would be the date when ICE is expected to approve the proposal made by the PP and award a concession agreement to the project.</p> <p>CL is closed.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding:	CL C2
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Reference of the operational life time of the project activity is missing in section C.1.2 of the PDD.
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The section has been revised accordingly.

Finding:	CL C2
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Reference of the operational life time of the project activity was given in section C.1.2 of the PDD.</p> <p>Nevertheless in section C.1.2: According to the explanation the BOT contract compass 20 years. Because it starts with the concession it encompasses not only the operation but also the construction before, so that the operation life is about 18 years from the view of the PO. Please revise as information is contradictory through the PDD (Section B5, sub-step 2c)</p> <p><u>CL remains open.</u></p>
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Section C.1.2 was revised accordingly.</p>
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>As the project activity will be operated as a BOT scheme considering that after 20 years the ownership of the plant is transferred to the ICE and no compensation is paid back to the PP (Chapter 2 section 16.8 & chapter 7 of the Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV/tender-3/). Therefore the <u>operational</u> life time of the project activity is limited to 18 years (considering 2 years of construction).</p> <p><u>CL is closed.</u></p>
Conclusion <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>

Finding:	D1
Classification	<input type="checkbox"/> CAR <input type="checkbox"/> CL <input checked="" type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>According to the law 7554 the project activity requires to perform an Environmental Impact Assessment. Therefore an Environmental Impact Declaration was submitted by the PP on 2012/02/24. At the time of validation the EIA approval has not been received by the authorities. This approval shall be checked at the time of first verification.</p>
Conclusion <i>Tick the appropriate checkbox</i>	<p><input checked="" type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input type="checkbox"/> The finding is closed</p>

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

Costa Rica, the host country, has ratified the Kyoto Protocol on 09th August 2002, and as a non Annex I party meets all relevant participation requirements.

The Costa Rican DNA assigned for CDM is the MINAE (Ministry of Environment and Energy), which has been checked directly from the UNFCCC website.

In accordance with the CDM M&P at the time of making the PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration the approval of the Parties involved is required.

Letter num. DM-468-2012 signed and stamped by the DNA of Costa Rica on 2012/06/29 was provided by the PP and assessed by the validation team. The project name "*Orosi Wind Power Project*" stated in the LoA is the same as the project activity name stated in the PDD submitted for global stakeholder's consultation.

The DNA listed in the UNFCCC web site - MINAE - has issued the LoA of the project activity.

The LoA confirms that Costa Rica is a Party to the Kyoto Protocol, the participation of Inversiones Eólicas de Orosí Dos, S.A. (IEDO) is voluntary and the project activity contributes to the sustainable development in the country.

Project Participants

As there is only one party involved, no other approvals are required for this project. This is consistent in the PDD and in the LoA.

5.1.2 Contribution to Sustainable Development

According to the Letter of Approval^{/LoA/} issued by the DNA of Costa Rica, the project activity contributes to the sustainable development of Costa Rica.

The project participant contributes to the sustainable development through clean and renewable electricity generation, contributing to fiscal accounts through the payment of taxes and increases opportunity for employment and contribution for local economy.

5.1.3 PDD editorial Aspects

The project activity complies with latest PDD template and latest version of the guideline for completing PDDs and when a deviation has been identified, a corresponding CAR or CL was raised.

5.1.4 Technology to be employed

In section A.4 of the PDD, description of the technology is provided. The description of the project in the PDD is complete and accurate.

The proposed project activity is the implementation of a wind farm with 50 MW of total power generation installed capacity with an expected annual output of 216.4 GWh. The project activity consists of 25 Gamesa WTG of 2 MW each.

The wind farm will be interconnected to the National Electric System by a transmission line.

The employed technology is environmentally safe and sound and state of the art, manufactured by leading provider Gamesa.

5.1.5 Small Scale Projects

The project activity is not a small scale project but a large scale wind farm with 50 MW of installed capacity.

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The project applies the baseline and monitoring methodology ACM0002 – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” – version 12.3 and methodological tools: “Tool to calculate the emission factor for an electricity system” – version 2.2.1 and “Tool for demonstration and assessment of additionality” – version 06.0. They are all approved and valid and derive from the UNFCCC CDM website.

All applicability conditions are met and the project activity is in line with all requirements and stipulations mentioned in all sections of the applied methodologies.

No significant emissions are expected from project or from leakage.

5.2.2 Project Boundary

The project boundaries (geographic and also related to GHG sources and gases) are correctly given in PDD, as described in section B.3 of the PDD. The methodology does not allow for a choice of which GHG sources / sinks are included, and there are not any other sources which are impacted by the project which are not addressed by the applied methodology.

5.2.3 Baseline Identification

The applied methodology establishes a one unique option for baseline scenario, in case the project activity is the installation of a new grid-connected renewable power plant/unit. This applied to the project activity.

5.2.4 Calculation of GHG Emission Reductions

Methodologies for calculating emission reductions are documented. The project intends to reduce carbon dioxide (CO₂) emissions by generating electricity from a wind farm project, which would be exported to the grid.

The calculation of GHG emission reductions was done in agreement with the applied methodology. As the project emissions are zero and leakage is not considered by the applied methodology, the emission reductions are calculated through calculation of the baseline emission. Baseline emission is calculated by multiplying the electricity baseline emission factor or grid emission factor and the net electricity exported to the grid.

The emission reductions calculation^{/XLS/} was reviewed by the validation team. All underlying data/values are transparent presented and assessed to be adequate. When a deviation has been identified, a corresponding CAR or CL was raised.

The grid emission factor has been calculated based on public available data. The value was determined ex-ante. The grid emission factor calculation is deemed to be adequate and transparent. The estimated emission reductions are plausible and conservative.

All values for the monitoring and non monitoring parameters and estimated emission reductions are plausible and conservative.

5.2.5 Additionality Determination

Consideration of CDM in decision making (if project start before validation)

At the time of on site visit the project start date has not yet occurred and the PDD was already published for Global Stakeholders Consultation such notification to the DNA and UNFCCC is not necessary UNFCCC.

Application of methodology / methodological tools

The additionality was justified in section B.5 of the PDD in accordance with the requirements derived from the applied methodology. The project activity fulfils all applicability criteria of the methodology.

Alternatives

The baseline is determined according to the applicable methodology and does not require alternative baseline consideration

Investment analysis

The analysis method chosen is the benchmarking analysis, as the alternatives identified to the project activity generate financial or economics benefits other than CDM related income.

A benchmark analysis is applied to demonstrate that the project is not financially attractive. A calculation spread sheet^{/IRR/} was elaborated by the PP and assessed by the validation team. As a result some findings were raised and successfully closed.

The IRR calculation was reproduced by the validation team. The source of project IRR is assessed to be adequate and the assumptions stated in the reports are assessed to be reasonable.

As described in the PDD and clearly demonstrated in the financial spread sheet, a sensitivity analysis of values that constitute more than 20% of the total project costs and total project revenues respectively were subject to a sensitivity analysis. The applied range of variation (+/-10%) is reasonable in the specific context of the project activity. No parameter constituting less than 20% of total project costs or revenues has been identified with potential material impact on the financial parameter.

After the PP has closed the raised findings, the validation team concludes that a clear, viewable and unprotected Excel spread sheet is available for the investment calculation.

For a detailed assessment of parameters considered for IRR calculation please refer to table A-3 located in Annex 3.

Barrier analysis

No barrier is included in the PDD to demonstrate additionality.

Common practice analysis

The defined region established in the PDD for comparison with other industries is the host country and is deemed appropriate. Calculation of similar projects identified in the relevant region has to follow the approach stated in paragraph 47 of the Tool for the demonstration and assessment of additionality. No similar projects have been identified.

Summary

As the PDD is already published for Global Stakeholders Consultation prior consideration notification to the DNA and UNFCCC is not necessary UNFCCC

The sequence utilized by the PP to demonstrate the additionality of the project has followed the criteria and requirements derived from the Tool for demonstration and assessment of additionality.

The additionality was demonstrated through investment analysis. A benchmark analysis is applied to demonstrate that the project is not financially attractive by comparing the equity IRR with the benchmark.

The source of IRR calculation is assessed to be adequate and the assumptions stated in the reports are assessed to be reasonable.

No barrier is included in the PDD to demonstrate additionality.

Considering the above, it is TÜV NORD's opinion that it is sufficiently demonstrated that the project is not financially attractive and therefore faces investment and prevailing practice barriers.

5.2.6 Monitoring Methodology

The monitoring plan in the PDD is in compliance with the applied monitoring methodology and it is assessed by the validation team as adequate and feasible.

5.2.7 Monitoring Plan

The monitoring plan in the PDD covers all parameters which have to be monitored w.r.t. the project boundary, in line with monitoring methodology. The monitoring arrangements were assessed by the validation team and can be implemented and are feasible within the project design. For details see section B.6 of the Annex below and the resolution of the findings.

5.2.8 Project Management Planning

There is a complete description in the PDD in section B.7.2 about the actions to be implemented concerning the monitoring process, including management structure and responsibilities, data collection and recording, measurement arrangements, internal audits, storage methods and training.

5.2.9 Crediting Period

The starting date of the crediting period as mentioned in the PDD/^{PDD/} under Section C.2. is 2014/01/01 or the date of registration of the project, whichever is later. The intended crediting period of the project is for a renewable period of seven years. The operational project life time (18 years duration) indicated in the Section C.1.2 of the PDD/^{PDD/} was verified by the validation team.

5.2.10 Environmental Impacts

According to the law 7554 the project activity requires to perform an Environmental Impact Assessment. Therefore an Environmental Impact Declaration was submitted by the PP on 2012/02/24. At the time of validation the EIA approval has not been received by the authorities. This approval shall be checked at the time of first verification. A FAR has been opened.

5.2.11 Comments by Local Stakeholders

The stakeholder consultation was conducted in form of meetings to submit comments or questions about the project activity. They were invited by invitation letters, announce in a national newspaper and broadcasting at regional and national television.

Relevant stakeholders were invited to the public consultation meeting. A complete list is included in section E.1 of the PDD.

A summary of comments is also available in the PDD and it was verified by the validation team. No negative comments were received.

As a result from the stakeholder involvement process it can be concluded that no relevant concerns of the local stakeholders are existing.

6 VALIDATION OPINION

Inversiones Eólicas de Orosí Dos, S.A. (IEDO) has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Orosí Wind Power Project" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board

In the course of the pre-validation 7 Corrective Action Requests (CARs) and 5 Clarification Requests (CLs) were raised and successfully closed. Additionally one FAR has been opened.

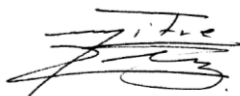
The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (Costa Rica) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from DNA of Costa Rica via the Letter of Approval (LoA) dated 2012/06/29.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 534,461 tCO₂e are most likely to be achieved within the (1st renewable) crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Mexico, 2012/10/10



Raul Gonzalez Mitre
TÜV NORD JI/CDM CP
Validation Team Leader

Hannover, 2012/10/10



Alexandra Nebel
TÜV NORD JI/CDM CP
Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/Coord/	Project coordinates as per the Feasibility Study for the public tender 2011CD-003636-PROV.
/EF/	<ol style="list-style-type: none"> 1. Emission Factor calculation spread sheet. 2. E-mails from ICE (GMayorga@ice.go.cr & RGomezM@ice.go.cr) attaching hourly generation data from years 2008, 2009 and 2010, 2012/01/13 3. Factors to calculate the GHG of the National Electric System and its application for a 2010 inventory by ICE, March 2011. 4. Expansion Plan of Electricity Generation 2010-2021 by ICE
EIA	<ul style="list-style-type: none"> • Environmental Impact Assessment of the <i>Orosi Wind Project</i> by CDG Environmental Advisor S.A. (company registered by SETENA No. 008-2006-SETENA), February 2012 and its proof of receive by the authority 2012/02/24. • Approval of the EIA (see FAR E1)
/decision/	Investment commitment Memorandum dated on 2010/12/14 (evidence of the decision to participate in the public tender by ICE)
/FD/	<p><u>Financial data and evidence:</u></p> <ol style="list-style-type: none"> 1. <u>Non Binding</u> Supplier Commitment Letter by GAMESA to the ICE dated on 2011/05/05 regarding the commitment to provide 25 wind turbines type Gamesa G8X 2MW to IEDO in case IEDO would be awarded the generation bid acc. to public tender No. 2010LI-000020-PROV 2. <u>Non Binding</u> Turnkey Engineer, Procurement and Construction Commitment Agreement signed between GAMESA and Inversiones Eolicas de Orosi Dos, S.A. on 2011/09/01. 3. Design and construction service agreement by and between Energia Eolica de Honduras, S.A. and T4 INAO (as contractor) for the Cerro de Hula Project: site office, warehouse and maintenance shops, 2010/12/06. 4. Land right contracts: <ul style="list-style-type: none"> • Land Leasing contract signed between land owners and Costa Rica Energy Holding (subsidiary of Globeleq Mesoamerica Energy), 2008/03/13 & 2008/05/23. • Contract with option to purchase land signed between land owners and Costa Rica Energy Holding and IEDO, 2011/03/24.

Reference	Document
	<ol style="list-style-type: none"> 5. Consolidated Financial Statements for years 2008 and 2009 audited and certified by KPMG, 2010/04/23. 6. Financial Statements for year 2010 audited and certified by Ernest & Young, 2011/02/25. 7. Preliminary financial statements for year 2011 8. Letter Ref. 112-11 regarding “<i>Applicable taxes wind energy project</i>” by Afc Tax and Accounting Advisory, 2011/03/01. 9. Financial model for Cerro de Hula Project (confidential) 10. Expenses spread sheet for Cerro de Hula Project (confidential) 11. Letter by IEDO No. ORO2-20110906-001 to ICE dated on 2011/09/09 regarding the energy price offered by IEDO in the public tender 2010LI-000020-PROV. 12. Master Security and Accounts Agreement for Cerro de Hula Project (confidential) 13. E-mail from Meyers-Reynolds dated on 2011/03/24 attaching a spread sheet with the insurance premium quotation 14. Letter No. LI085968XX from United States Export-Import Bank dated on 2011/05/17. (“Ex-Im.pdf”) 15. Letter No. 118/2011 from Central American Bank for Economic Integration dated on 2011/05/04. (“CABEI.pdf”) 16. Credit Agreement for Cerro de Hula project with Export-Import Bank of the United States, 2010/11/04 (confidential) 17. Financial Assessment Review Report by Deloitte, June 2011. 18. Calculation spread sheet of interest and fees and commissions during construction (“Interest and fees.xls”) 19. Calculation spread sheet of the lender costs for the Cerro de Hula wind project (“CdH lender costs.xls”) and invoices actually paid for Cerro de Hula wind project. 20. Offer from BICSA (International Bank of Costa Rica) showing that the assumed facility cost for the environmental performance bond is conservative (without date) (“BICSA Bond Offers.pdf”) 21. Calculation spread sheet of the yearly O&M costs (“Orosi O&M budget.xls”) 22. Audited financial statements of 2009 and 2010 for the Plantas Eolicas SRL wind farm by Ernest & Young, 2011/02/25 “Informe Plantas Eólicas 2010.pdf”) 23. Calculation spreadsheet of the interest rate calculations 24. Ex-Im Bank Prior CIRR Rates “CIRR rate date.pdf” extracted from the Export-Import Bank of the United States web site (http://www.exim.gov/tools/cirr_prior.cfm) 25. Credit Agreement dated as of 2010/11/04 among Energia Eolica de Honduras S.A. as borrower and CityBank, N.A. as Ex-Im Facility Agent “EXIM Credit CdH.pdf”) 26. Offer for WTG Num. 20200166 by GAMESA, 2012/01/18. 27. Project Finance Structuring and Lead Arranging Letter of Interest by BICSA – International Bank of Costa Rica – for the financing of the Orosi Wind Power Project, March 2012 (See Bicsa Offer Orosi.pdf).

Reference	Document
/IRR/	IRR calculation spread sheet
/LOA/	Letter of Approval from DNA of Costa Rica – 2012-06-29
/MOC/	Modalities of Communication
/PDD/	<ol style="list-style-type: none"> 1. PDD named “Orosí Wind Power Project” Ver. 1, 2012/01/06. 2. PDD named “Orosí Wind Power Project” Ver. 2, 2012/03/12. 3. PDD named “Orosí Wind Power Project” Ver. 3, 2012/06/14.
/PLF/	Assessment of Energy Production of the Orosi Wind Farm in Costa Rica, No. 107/026/ER/02 by GL Garrad Hassan, issued 2011/06/01
/ORG/	Org-chart of Globeleq
/SHCP/	<p><u>Stakeholder consultation process evidences:</u></p> <ol style="list-style-type: none"> 1. Invitation Letters and List of receipt of invitation letters 2. Attendance Register 3. Questions 4. Meeting minute 5. Project description brochure 6. Power Point presentation 7. Photos of the meeting 8. Video of the SHCP 9. Newspaper announcement 10. TV video
/TECH/	Type Certificate No. TC-GL-025A-2007, Rev. 4 of the equipment GAMESA G80-2.0 MW IEC IA 50 Hz/60 Hz by Germanischer Lloyd Industrial Services, 2010/11/01. Valid till 2012/10/31.
/tender/	<ol style="list-style-type: none"> 1. Public Tender No. 2010LI-000020-PROV by ICE – Purchase of Energy from Wind Plants - September 2010. 2. Memo dated on 2011/05/09 from ICE informing that proposals opening of public tender No. 2010LI-000020-PROV will be 2011/06/09. 3. Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV, December 2011. 4. Concession Agreement No. 2011CD-003636-PROV by ICE – 50 MW of wind energy generation by Orosi Wind Project – 2012/02/17.
/XLS/	Emission reduction calculation spreadsheet

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM0002/	ACM0002 Grid-connected electricity generation from renewable sources. Version 12.3.0
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM
/GAIA/	Guidelines on the assessment of Investment Analysis. Version 05, EB 62, Annex 5.
/GDAPC/	Guidelines on the demonstration and assessment of prior consideration of the CDM, Ver. 4 (EB 62, Annex 13)
/GT/	UNFCCC: CDM Glossary of Terms
/IAS/	International Accounting Standard No. 16 (IAS 16) – Property, Plant and Equipment.
/IPCC/	<ul style="list-style-type: none"> • IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000. • Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/LAW/	<p><u>List of applicable laws:</u></p> <ol style="list-style-type: none"> 1. Law 7200 – Law for autonomous generation – October 1990 and its modification through Law 7508 on May 1995. 2. Law Num. 7593 – Law for the creation of the ruling authority of public services (ARESEP) - August 1996, its executive Decree No. 25,903 – Regulatory decree for Law No. 7593 - February 1997 and its modification through Law Num. 8660 on August 2008. 3. Technical Norm for use function and control of Energy Meters (AR-DTCON), resolution RRG-2440-2001, December 2001. 4. Environmental Law Num. 7554, October 1995. 5. Income Tax Law No. 7092, 1988/04/21 6. Sale Tax Law No. 6826, 1982/11/08 7. International account norm IAS 16 - Property, Plant and Equipment, 2003/12/18.
/PDD-T/	Project Design Document Form (CDM PDD) – Version 03
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))

Reference	Document
/Studies/	<p>1. Wind Farm investment and costs</p> <ul style="list-style-type: none"> Report “The Economics of Wind Energy” issued by the European Wind Energy Association in March 2009 Report “Wind Energy – The Facts” – Part III – The Economics of Wind Power, issued by the European Wind Energy Association <p>2. Project Cost Analysis (Contingency estimation)</p> <p>Reports “Understanding and Monitoring the Cost-Determining Factors of Infrastructure Projects” issued by the European Commission (http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/5_full_en.pdf)</p>
/TA/	Tool for the demonstration and assessment of additionality (Ver. 6).
/TEF/	Tool for calculating the emission factor of an electricity system – Version 2.2.1 EB 63, Annex 19.
/VVM/	Validation and Verification Manual (Version 01.2, Annex 1, EB 55)

Table 7-3: Websites used

Reference	Link	Organisation
/aresep/	www.aresp.go.cr	Aresep web site
	http://www.aresp.go.cr/docs/GENERAC_TERMICA_2010.xls	Thermal Energy Generation (used for OM calculation)
	http://www.aresp.go.cr/docs/GEN_PRIVADA_2010.xls	Renewable (Private) Energy Generation (used for BM calculation)
	www.aresp.go.cr/docs/GEN_XFUENTE_1996-2010.xls	Annual Generation by Source (used for BM calculation)
	http://www.aresp.go.cr/docs/CAPACIDADXFUENTE_1996-2010.xls	Installed capacity (used for common practice calculation)
/cnfl/	http://www.cnfl.go.cr/portal/pa/ge?_pageid=35,43166,35_46	CNFL web site (used for BM calculation)

Reference	Link	Organisation
	3621& dad=portal& schema=PORTAL	
/dna/	http://www.minae.go.cr/	MINAET web site
/dse/	http://www.dse.go.cr/	DSE web site
/cd4cdm/	www.cd4cdm.org	UNEP Riso Centre
/cdmpipe/	http://www.cdmpipeline.org/publications/CDMPipeline.xlsx	CDMpipeline.org web site
/fed-res/	http://www.federalreserve.gov/releases/h15/data.htm	Federal Reserve of the United States
/gamesa/	http://www.gamesacorp.com/es/	Gamesa web site
/globeleq/	http://www.globeleq.com/	Globeleq web site
/Rhino/	http://www.greenrhinoenergy.com/finance/modelling/revenue_uncertainties.php	Green Rhino Energy web site
/IEA/	http://www.iea.org/textbase/nppdf/free/2005/ElecCost.pdf	IEA – International Energy Agency – Projected Costs of Energy Electricity
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/lawea/	http://www.lawea.org/newsletter/esp/0915/noticia01.html	Wind Energy Association Latin America - LAWEA - web site
/setena/	www.setena.go.cr	Setena web site
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Leonel Umana	Development Management – Globeleq Mesoamerica Energy

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V/T/E	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Jelle Hettinga	Financial Analyst – Globeleq Mesoamerica Energy
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Carlos Walker	Project Developer – Globeleq Mesoamerica Energy
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Gustavo Brizuela Trana	Data analyst – Globeleq Mesoamerica Energy
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Hesler Acevedo	Resources Analyst – Globeleq Mesoamerica Energy
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Manuel Dobles	Project Engineer – Globeleq Mesoamerica Energy
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Marco Acuna M.	Engineer Coordinator – Globeleq Mesoamerica Energy
/IM02/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Justin Guest	Advisor CDM
/IM03/	V/T/E	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Sofia Castro	Consultant – GeoIngenieria
/IM04/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Carlos Jimenez G.	Land Owner
/IM04/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Amelia Trana Vargas	Secretary of Local Development Office
/IM04/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Augusto Otarola	Environmental Authority – Liberia Municipality
/IM05/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	William Alpizar	Director – DNA of Costa Rica

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

- A1:** Validation Protocol
- A2:** Assessment of Baseline Identification
- A3:** Assessment of Financial Parameters
- A4:** Assessment of Barrier analysis
- A5:** Outcome of the GSCP
- A6:** Appointment certificates of the team members

ANNEX 1: VALIDATION PROTOCOL

Table A-1: Requirements Checklist

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A. General Description of Project Activity				
A.1. Approval <i>The written approval of the parties involved is a mandatory requirement</i>				
<p>A.1.1. Has the project provided written approvals of all parties involved? (EB 55 Annex 1, § 44)</p> <p><i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.</i></p> <p><i>Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA</i></p>	<p><i>Description:</i> The party involved in the project activity is Costa Rica (Host Party).</p> <p>In accordance with the CDM M&P at the stage of validation a Party involved may or may not have provided its approval at the time of making the PDD public. The approval of the parties involved is required at the time of requesting registration.</p> <p>Currently the PP has requested the LoA for the project activity, but LoA has not been received yet.</p> <p><i>Justification of evidences:</i> Interview with PP and CDM consultant.</p> <p><i>Conclusion:</i> The project has not provided the written approval from the Costa Rica DNA. Hence, CAR A1 has been raised.</p> <p>(CAR A1) At the time of validation the letter of approval is missing.</p>	<p>/dna/ /unfccc/ /IM05/</p>	CAR A1	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>A.1.2. Are the approvals issued from organisations listed as DNAs on the UNFCCC CDM website?</p> <p>(EB 55 Annex 1, §§ 44, 47, 48, 49 (b), 49 (c), 53) <i>Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted the LoA for validation.</i></p>	<p><i>See comments at A.1.1 above.</i></p>		<p>CAR A1</p>	<p>OK</p>
<p>A.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol?</p> <p>(EB 55 Annex 1, § 45(a))</p>	<p><i>Description:</i> Costa Rica, the host country, has ratified the Kyoto Protocol on 9th August 2002. The Costa Rican DNA assigned for CDM is the “MINAE”</p> <p><i>Justification of evidences:</i> Evidenced at UNFCCC website.</p> <p><i>Conclusion:</i> The project complies with the requirement. However, it is still pending to receive the DNAs LoA, see CAR A1</p>	<p>/dna/ /unfccc/ /IM05/</p>	<p>CAR A1</p>	<p>OK</p>
<p>A.1.4. Do the written approvals confirm that the participation is voluntary?</p> <p>(EB 55 Annex 1, § 45(b))</p>	<p><i>See comments at A.1.1 above.</i></p>		<p>CAR A1</p>	<p>OK</p>
<p>A.1.5. Does the written approval from the host country confirm that the project contributes to the sustainable development in the country?</p> <p>(EB 55 Annex 1, § 45(c))</p>	<p><i>See comments at A.1.1 above.</i></p>		<p>CAR A1</p>	<p>OK</p>
<p>A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for</p>	<p><i>See comments at A.1.1 above.</i></p>		<p>CAR A1</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
registration or an additional specification of the project activity, e.g. PDD version number? (EB 55 Annex 1, §§ 45(d), 50)				
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6? (EB 55 Annex 1, § 46)	See comments at A.1.1 above.		CAR A1	OK
A.1.8. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other? (EB 55 Annex 1, § 51)	<i>Description:</i> Yes, as stated at section A.3 and in Annex 1, the project participant is <i>Inversiones Eolicas de Orosi Dos, S.A. (IEDO)</i> . <i>Justification of evidences:</i> Both sections are consistent. <i>Conclusion:</i> The project complies with the requirement.	/PDD/ /DIR/	OK	OK
A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? (EB 55 Annex 1, § 51) <i>Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.</i> <i>Describe the means of validation employed to draw this conclusion.</i>	See comments at A.1.1 above.		CAR A1	OK
A.1.10. Are any other project participants approved but not listed in the PDD? (EB 55 Annex 1, § 52)	See comments at A.1.1 above.		CAR A1	OK
A.1.11. Does the DoE have a direct contractual relationship with the PP?	<i>Description:</i> There is a signed Proposal for carrying out the validation CDM Project "Orosi Wind Power Project" – #		OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 51; EB 50 Annex 48, §§ 7–9) <i>Check whether the PPs listed in the published PDD are still listed in the PDD going to be submitted to request for registration.</i>	11CDMBR120837 – between TÜV NORD CERT GmbH and Inversiones Eolicas de Orosi Dos, S.A. (IEDO) signed on 2011-12-07. <i>Justification of evidences:</i> It is a valid contract between the DOE and PP. <i>Conclusion:</i> The project complies with the requirements			
A.2. Contribution to Sustainable Development <i>The project's contribution to sustainable development is assessed.</i>				
A.2.1. Has the host country confirmed that the project assists it in achieving sustainable development? (EB 55 Annex 1, §§ 125–127) <i>Contains a statement confirming whether the letter of approval by the DNA of the host party confirmed the contribution of the project to the sustainable development of the Host Party.</i>	<i>See comments at A.1.1 above.</i>		CAR A1	OK
A.2.2. Will the project create other environmental or social benefits than GHG emission reductions? (EB 55 Annex 1, §§ 125–127) <i>Describe the other positive aspects not related to GHG emission reduction on the environment.</i>	<i>Description:</i> The view of the project participants on the contribution of the project activity towards sustainable development is briefly described in section A.2. Besides GHG reduction, the project also helps reducing the reliance on fossil fuel for power generation and minimization of environmental impact. Moreover, It increases job opportunities to	/PDD/ /IM01/ /IM04/ /IM05/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>local people especially during construction phase.</p> <p><i>Justification of evidences:</i> The project was reviewed in detail, the sites where the wind farm will be located were inspected and local stakeholders were interviewed. Furthermore the Environmental authority of the Municipality where the project activity is located and the director of the Costa Rican DNA were also interviewed.</p> <p><i>Conclusion:</i> The project creates other social-environmental benefits than GHG emission reductions.</p>			
<p>A.3. PDD editorial aspects</p> <p><i>The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i></p>				
<p>A.3.1. Has the latest version of the PDD form been applied? (EB 55 Annex 1, § 55)</p>	<p><i>Description:</i> Yes, it has been used the version 3 of CDM PDD template. No deviations thereof have been observed.</p> <p><i>Justification of evidences:</i> The website of the UNFCCC was checked.</p> <p><i>Conclusion:</i> The latest PDD template has been used.</p>	<p>/unfccc/ /PDD-T/</p>	OK	OK
<p>A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (EB 55 Annex 1, §§ 56–57)</p>	<p><i>Description:</i> Yes, the PDD has in general been filled in accordance with the PDD Guidelines. Minor editorial corrections have been discussed with PP.</p> <p>Nevertheless, information required in Section A.2 as per the PDD guidance is missing.</p> <p><i>Justification of evidences:</i> The PDD has been reviewed against the PDD Guidelines.</p>	<p>/PDD/ /GCP/</p>	GL-A2	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p><i>Conclusion:</i> Further information is required in Section A.2 as per the PDD guidance requirements. CL A2 has been raised:</p> <p>(CL A2) Description of the baseline scenario, as identified in section B.4 is missing.</p>			
<p>A.4. Technology to be employed</p> <p><i>Validation of project technology focuses on the project engineering, choice of technology and competence/maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i></p>				
<p>A.4.1. Does the PDD contain a clear, accurate and complete project description?</p> <p>(EB 55 Annex 1, §§ 58–59, 64)</p> <p><i>The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.</i></p> <p><i>Pl. consider esp. chapters A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.</i></p> <p><i>§64 (a) Describe the process undertaken to validate the accuracy and completeness of the project description.</i></p> <p><i>§64 (b) Contain the DOE's opinion on the accuracy and</i></p>	<p><i>Description:</i> A brief project description is given in sections A.2, and section A.4 of the PDD. The technology of the wind turbines is Spanish provided by the company Gamesa.</p> <p>The project description is compatible with the type and category of the project activity as described in item A.4.3 of the PDD.</p> <p><i>Justification of evidences:</i> For the assessment the validation team has: a) reviewed the PDD in detail; b) carried out a site visit and c) carried out interviews with technical and operational personnel.</p> <p><i>Conclusion:</i> The PDD contain a clear, accurate and complete project description. The project activity will use state of the art technology provided by Gamesa.</p>	<p>/PDD/ /TECH/ /IM01/ /gamesa/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>completeness of the project description.</i>				
A.4.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description?	<p><i>Description:</i> The project activity consists in a Greenfield wind farm. The PDD has been reviewed and it is confirmed that the project description is in accordance to the most likely implementation scenario.</p> <p><i>Justification of evidences:</i> This could be verified during site visit as described in question A.4.1 above.</p> <p><i>Conclusion:</i> the technology and project description is given and considered as plausible.</p>	/PDD/ /TECH/ /gamesa/	OK	OK
<p>A.4.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation?</p> <p>(EB 55 Annex 1, §§ 63–64) <i>Describe the steps taken to validate this issue.</i></p>	<i>Not applicable, since the project does not involve alteration of the existing installation or process. It is a Greenfield project.</i>	/PDD/	n.a	n.a
<p>A.4.4. Does the project design engineering reflect current good practices?</p> <p><i>Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.</i></p>	<p><i>Description:</i> Yes, the project is a new wind power plant which generates energy using wind power.</p> <p>In PDD, section A.4.2, description of the technology is provided. The technology of the wind turbines is Spanish provided by the company Gamesa. According to the manufacturer website Gamesa has more than 17 years of experience, setting a standard of excellence and reliability around the globe. Hence, it is assessed that the project design reflects current good practices and is considered to be environmentally safe and sound.</p>	/PDD/ /TECH/ /gamesa/ /IM01/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p><i>Justification of evidences:</i> The validation team could verify the information above by inspecting the project site and interviewing representatives of PP. Also, the manufacturer website was checked.</p> <p><i>Conclusion:</i> The project design reflects current good practices.</p>			
<p>A.4.5. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?</p> <p><i>Describe the process undertaken to assess the state of the art technology.</i></p>	<p><i>Description:</i> Yes, the turbines and towers will be provided by Gamesa, which is an important manufacturer of wind technology worldwide.</p> <p><i>Justification of evidences:</i> Interviews with representatives of the PP were performed.</p> <p><i>Conclusion:</i> The project design uses state of the art technology.</p>	<p>/PDD/ /TECH/ /gamesa/</p>	<p>OK</p>	<p>OK</p>
<p>A.4.6. Does the project make provisions for meeting training and maintenance needs?</p> <p><i>Describe the process undertaken to assess the maintenance and training needs.</i></p>	<p><i>Description:</i> It has been identified that training activities regarding O&M and transfer of know-how will be provided by the manufacturer of the technology during the first two years.</p> <p><i>Justification of evidences:</i> The PDD has been checked and interviews with representatives of PPs have been performed.</p> <p><i>Conclusion:</i> The project makes provisions for meeting training and maintenance needs.</p>	<p>/PDD/ /IM01/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
A.5. Small scale project activity <i>It is assessed whether the project qualifies as small-scale CDM project activity</i>				
A.5.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II? (EB 55 Annex 1, §§ 135–136 (a))	<i>The project does not qualify as small-scale CDM project activity.</i>	/PDD/	n.a.	n.a.
A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein? (EB 55 Annex 1, § 136 (b)) <i>Check, if applicable the expiry dates of the applied methodology. Further, take into consideration the general guidance to the methodologies¹, which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.</i>	<i>The project does not qualify as small-scale CDM project activity.</i>	/PDD/	n.a.	n.a.
A.5.3. Is the small scale project activity not a debundled component of a larger project activity? (EB 55 Annex 1, § 136 (c))	<i>The project does not qualify as small-scale CDM project activity.</i>	/PDD/	n.a.	n.a.

¹ <http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>Describe the steps taken to validate this issue. Pl refer to the Compendium of guidance on debundling (EB 54, Annex 13).</i>				
A.5.4. Is an assessment of the environmental impacts of the proposed SSC CDM project activity required by the host Party? (EB 55 Annex 1, § 136 (d))	<i>The project does not qualify as small-scale CDM project activity.</i>	/PDD/	n.a.	n.a.
B. Project Baseline, Additionality and Monitoring Plan				
B.1. Application of the Methodology				
B.1.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof? (EB 55 Annex 1, § 65) <i>Describe the steps taken to validate this issue.</i>	<p><i>Description:</i> Yes, the project activity applies the approved methodology ACM0002. At the time of validation, version 12.3.0 of the applied methodology was valid and applicable.</p> <p><i>Justification of evidences:</i> To ensure that the applied methodology is approved by the executive board and the PP has chosen the latest version, the methodologies section of UNFCCC CDM website (http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html) was visited.</p> <p><i>Conclusion:</i> The project applies an approved and applicable version of a CDM methodology</p>	/unfccc/ /ACM 0002/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website?</p> <p>(EB 55 Annex 1, §§ 65, 70) <i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> The methodology applied by the PPs follows stipulations of the version available on UNFCCC website.</p> <p><i>Justification of evidences:</i> The PDD was reviewed against the stipulations of the methodology.</p> <p><i>Conclusion:</i> The stipulations of the published version have been followed.</p>	<p>/ACM 0002/</p>	<p>OK</p>	<p>OK</p>
<p>B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled?</p> <p>(EB 55 Annex 1, §§ 66(a)–(b), 68, 71, 76) <i>Describe for <u>each</u> applicability criterion listed in the selected approved methodology the steps taken to assess the information contained in the PDD.</i></p>	<p><i>Description:</i> In order to assess the applicability of the project, the PDD was reviewed and the applicability determination of the PDD was counter checked against the criteria given in the applicability section of the methodology. The information in the PDD was checked during on-site visit to prove that such information is valid and reflects the reality of the project.</p> <p><i>Justification of evidences:</i></p> <p>The methodology is applicable under the following conditions:</p> <ul style="list-style-type: none"> • For 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). <p>The project activity fits option (a), as it consists of the implementation of a new wind power plant/unit.</p> <ul style="list-style-type: none"> • 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 	<p>/PDD/ /ACM 0002/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;</p> <p>The project activity is the installation of a new wind power plant/unit.</p> <ul style="list-style-type: none"> In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter $EG_{PJ,y}$): 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 expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity; <p>Not applicable to the project activity as it consists of a new wind power plant.</p> <ul style="list-style-type: none"> In case of hydro power plants, one of the following conditions must apply: <ul style="list-style-type: none"> The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or <p>Not applicable to the project activity.</p> <ul style="list-style-type: none"> The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m² after the implementation of the project activity 			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>Not applicable to the project activity.</p> <ul style="list-style-type: none"> • The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m² after the implementation of the project activity <p>Not applicable to the project activity.</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; <p>Not applicable to the project activity.</p> <ul style="list-style-type: none"> • Biomass fired power plants; <p>Not applicable to the project activity.</p> <ul style="list-style-type: none"> • Hydro power plants that result in new single reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m². <p>Not applicable to the project activity.</p> <p><i>Conclusion:</i> Project fulfils applicability criteria of the methodology.</p>			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.1.4. In case one or more applicability criteria have not been met, has the validation team requested clarification to, revision of or deviation from the methodology in accordance with the latest guidelines? (EB 55 Annex 1, §§ 72–75)	<i>Description:</i> Not applicable as project meets all applicability conditions of ACM0002. <i>Justification of evidences:</i> See comment just above. <i>Conclusion:</i> Not applicable.	/PDD/ /ACM 0002/	OK	OK
B.1.5. Is the project in accordance with every other stipulation or requirement mentioned in all sections of the methodology and in guidances for approved methodologies provided by the CDM EB? (EB 55 Annex 1, § 69, 71) <i>Describe the steps taken to check whether the proposed project activity meets <u>all the other possible stipulations and /or limitations</u> mentioned in all sections of the approved methodology selected.</i>	<i>Description:</i> All stipulations and requirements were fulfilled by the project activity. <i>Justification of evidences:</i> Technical information and interviews were performed. <i>Conclusion:</i> All applicable criteria and further requirements are fulfilled by the project activity. No discrepancies were identified.	/PDD/ /ACM 0002/ /IM01/	OK	OK
B.2. Project Boundaries <i>Project Boundaries are the limits and borders defining the GHG emission reduction project</i>				
B.2.1. Are the project's spatial boundaries (geographical) clearly defined?	<i>Description:</i> Section B.3 of the PDD includes a definition of the project's spatial boundaries. These boundaries are in accordance with the applicable methodology ACM0002, <i>the spatial extent of the</i>	/PDD/ /ACM	CL-B4	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>(EB 55 Annex 1, §§ 67(a), 78–80) <i>Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	<p><i>project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project activity is connected to.</i></p> <p><i>Justification of evidences:</i> The draft PDD and the applicable methodology have been reviewed.</p> <p><i>Conclusion:</i> The project fulfils the requirement; Nevertheless, some corrections are required in the PDD regarding the project boundary, CL B1 was raised.</p> <p>(CL B1) Section B.3 Table 5 for the project boundary are not as per the applicable methodology ACM0002 Version 12.3.</p>	<p>0002/</p>		
<p>B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology?</p> <p>(EB 55 Annex 1, §§ 67(a), 78–80) <i>Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	<p><i>Description:</i> Yes, all sources and GHGs included in the project boundary are included in the table in section B.3 of the PDD in line with ACM0002.</p> <p><i>Justification of evidences:</i> The PDD was revised against sources and gases defined in ACM0002.</p> <p><i>Conclusion:</i> The sources are in compliance with the applied methodology as well as with the real situation.</p>	<p>/PDD/ /ACM 0002/</p>	<p>OK</p>	<p>OK</p>
<p>B.2.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified?</p> <p>(EB 55 Annex 1, §§ 67(a), 78–80) <i>Confirm if the justification provided by the PPs is reasonable, based on assessment of supporting</i></p>	<p><i>Not applicable, since the methodology does not allow such choices.</i></p>	<p>/ACM 0002/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>documented evidence provided by the PPs or by onsite observations.</i>				
B.3. Baseline Identification <i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i>				
B.3.1. What possible baseline scenarios have been considered? (EB 55 Annex 1, §§ 67(b), 83) <i>Fill in all alternatives in table A-2.</i>	<i>Description:</i> The baseline is determined according to the applicable methodology and does not require alternative baseline consideration. See definition of baseline in B.3.3 below. <i>Justification of evidences:</i> ACM0002 provides a definition of the baseline for the installation of a new grid-connected renewable power plant/unit. <i>Conclusion:</i> See definition of baseline in B.3.3 below.	/ACM 0002/	OK	OK
B.3.2. Is the list of alternatives complete? (EB 55 Annex 1, §§ 67(b), 83) <i>Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration</i>	<input checked="" type="checkbox"/> All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been omitted. <input type="checkbox"/> The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been issued	/ACM 0002/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.3.3. What has been identified as the baseline scenario?</p> <p>(EB 55 Annex 1, §§ 81–82, 86)</p> <p><i>Describe the chosen BL scenario, taking into consideration the technology that would be employed and / or the activities that would take place in the absence of the proposed CDM project activity.</i></p>	<p><i>Description: '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".'</i></p> <p><i>Justification of evidences:</i> The definition of ACM0002 was applied.</p> <p><i>Conclusion:</i> The identified baseline scenario is according to definition stated in ACM0002.</p>	/PDD/ /ACM 0002/	OK	OK
<p>B.3.4. Has the baseline scenario been determined according to the methodology?</p> <p>(EB 55 Annex 1, §§ 82, 87(e))</p> <p><i>Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> The determination has been carried out as per the procedure contained in the applied methodology.</p> <p><input type="checkbox"/> The following CARs / CLs have been identified with respect to the selection of the baseline scenario:</p>	/ACM 0002/	OK	OK
<p>B.3.5. Has any plausible alternative scenario been excluded?</p> <p>(EB 55 Annex 1, § 83)</p> <p><i>Describe how it is validated that no plausible alternative scenario has been excluded.</i></p>	<p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p> <p><input checked="" type="checkbox"/> No plausible baseline scenario has been excluded.</p> <p><input type="checkbox"/> The following plausible baseline scenarios have been excluded though no adequate justification has been provided for elimination. The following CARs / CLs have been issued:</p>	/ACM 0002/	OK	OK
<p>B.3.6. Is the identified baseline scenario reasonable and has the baseline scenario been</p>	<p><input checked="" type="checkbox"/> The baseline scenario is reasonable and has been determined using conservative assumptions where</p>	/ACM 0002/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>determined using conservative assumptions where possible, including relevant references and sources? (EB 55 Annex 1, §§ 84–86(a)–(c)) <i>Describe whether the choice of the identified baseline scenario is reasonable by validating the <u>key assumptions, calculations and rationales</u> used in the PDD. Describe whether these are listed, relevant and <u>conservatively interpreted</u> in the PDD.</i></p>	<p>possible. Please refer to comments in table A-2 and sections B.3.2 to B.3.5 above. <input type="checkbox"/> The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative</p>			
<p>B.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations? (EB 55 Annex 1, §§ 85, 87(d)) <i>Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board. Pl. consider the guidance EB 22 annex 3 (regarding E+ and E- policies).</i></p>	<p><i>Not applicable, as the baseline is given by the methodology.</i></p>	<p>/ACM 0002/</p>	<p>OK</p>	<p>OK</p>
<p>B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced? (EB 55 Annex 1, § 87(a)–(c)) <i>Describe whether the documents and sources referred to in the PDD are correctly quoted and clearly referenced.</i></p>	<p><i>Not applicable, as the baseline is given by the methodology.</i></p>	<p>/ACM 0002/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.3.9. Does the PDD contain a <i>verifiable</i> description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity. (EB 55 Annex 1, § 86)	<i>Not applicable, as the baseline is given by the methodology.</i>	/ACM 0002/	OK	OK
B.4. Additionality Determination <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i>				
B.4.1. Methodology				
B.4.1.1. Does the PDD describe how the project is additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools? (EB 55 Annex 1, §§ 67(d), 94–95) <i>Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.</i>	<i>Description:</i> Yes, the sequence utilized by the PP to demonstrate the additionality of the project has followed the step-wise approach described in version 6 of the “Tool for the demonstration and assessment of additionality” ^{TA/} . <i>Justification of evidences:</i> The PDD was reviewed in detail and supporting evidences cross-checked. <i>Conclusion:</i> The additionality is demonstrated by benchmark analysis calculating Project IRR.	/PDD/ /ACM 0002/ /TA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
B.4.2. Consideration of CDM before project start				
<p>B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms?</p> <p>(EB 55 Annex 1, § 99, 104(a))</p> <p><i>Assess why the chosen starting date can be considered as the earliest date at which either the implementation or construction or real action of a project has begun or will begin.</i></p> <p><i>Check that no other activities related to the project that happened before the identified start date can be considered as start date. In this context please also take into consideration infrastructural expenses if they are relevant (in terms of costs and importance for the project implementation) in the specific context of the project activity. Appropriate evidence should be given.</i></p>	<p><i>Description:</i> The project starting date reported in section C.1.1 of PDD is 2012/03/15 which is the expected date when ICE will approve the interconnection to the grid and therefore trigger the obligation stated in the agreement with GAMESA.</p> <p>Furthermore the PP ratified the <u>Non Binding</u> Supplier Commitment Letter between GAMESA and Inversiones Eolicas de Orosi Dos, S.A. on 2011/09/01 due to new negotiation were done between parts. This is the value used in the investment analysis calculation.</p> <p>However, it has been revealed during validation site visit and interviews with representatives of PP that such agreement signed on 2011/05/05 with Gamesa and then ratified on 2011/09/01 is a non binding agreement and therefore it does not represent a <u>significant</u> financial commitment. The verification team checked the Agreement with Gamesa and concludes that no financial expenditure is described.</p> <p>Finally the validation team concludes that the project starting date has not yet occurred and the date referenced in section C.1.1 of the PDD is incorrect.</p> <p><i>Justification of evidences:</i> Representatives of PP were interviewed, the PDD, the Non Binding Supplier Commitment Letter with GAMESA ^{/FD-1/} were reviewed in detail by the validation team.</p> <p><i>Conclusion:</i></p> <p>(CL C1) During on site visit it was evidenced that starting date of the project activity was wrongly referenced in version 1 of the PDD. Correction is necessary.</p>	<p>/PDD/ /GT/ /FD/ /IM01/ /IM02/ /IM03/</p>	GL-G+	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.4.2.2. In case the project start date is on or after 2nd August 2008 has the PP informed the DNA and UNFCCC about the intension to seek CDM status?</p> <p>(EB 55 Annex 1, §§ 99–101)</p> <p><i>Describe whether such a notification has been provided by the project participants within six months of the project activity start date; if NOT it shall be determined that the CDM was not seriously considered.</i></p>	<p><i>Description:</i> the project start date has not yet occurred and the PDD was already published for Global Stakeholders Consultation.</p> <p><i>Justification of evidences:</i> Interviews were performed on site with representatives of PPs. The Guidelines on the demonstration and assessment of prior consideration of the CDM was checked.</p> <p><i>Conclusion:</i> As the project start date has not yet occurred and the PDD is already published for Global Stakeholders Consultation such notification to the DNA and UNFCCC is not necessary.</p>	<p>/GDAPC/ /FD/ /PDD/ /IM01/ /IM02/ /IM03/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.2.3. In case the project start date is before commencing of validation and 2nd August 2008, was the incentive from the CDM seriously considered and are details given in the PDD?</p> <p>(EB 55 Annex 1, §§ 100, 102)</p> <p><i>Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	<p><i>Not applicable to the project activity. See comments above.</i></p>		<p>n.a.</p>	<p>n.a.</p>
<p>B.4.2.4. How and when was the decision to proceed with the project taken?</p> <p><i>Describe the steps taken to validate the starting date.</i></p>	<p><i>Description:</i> The PP has provided evidence of the decision to participate in the public tender No. 2010LI-000020-PROV through an Investment commitment Memorandum dated on 2010/12/14. It is stated in such memorandum that:</p> <ul style="list-style-type: none"> • To pursue the Orosi Wind Project; • Task cost budget; • To enter into land acquisition agreement. 	<p>/PDD/ /decision/ /tender /IM01/ /IM02/ /IM03/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>The PP has participated in the Public Tender No. 2010LI-000020-PROV during year 2011. According to such Public tender the dead line to provide the document package including the financial information was on 9th June of 2011.</p> <p><i>Justification of evidences:</i> The public tender No. 2010LI-000020-PROV and the Investment commitment Memorandum was checked.</p> <p><i>Conclusion:</i> evidence was provided to the validation team to demonstrate the decision to participate in the public tender No. 2010LI-000020-PROV.</p>			
<p>B.4.2.5. Is the project start date consistent with the available evidences? (EB 55 Annex 1, § 102)</p> <p><i>Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	Please, see comment in B.4.2.1 and B.4.2.2.	<p>/PDD/ /GT/ /FD/ /IM01/ /IM02/ /IM03/</p>	CAR G+	OK
<p>B.4.2.6. Was the decision to proceed with the project taken by a person which has the authority to do so? (EB 55 Annex 1, § 102(a))</p> <p><i>Describe the steps taken to validate this issue.</i></p>	Please, see comment in B.4.2.1 and B.4.2.2.	/FD/	OK	OK
B.4.2.7. How was the CDM involved in the decision	Please, see comment in B.4.2.1 and B.4.4.2.	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
making process? (EB 55 Annex 1, § 102) <i>Describe why CDM was a decisive factor in the decision making process.</i>				
B.4.2.8. Do the evidences provided doubtlessly prove that continuous and real actions were taken in order to secure the CDM status? (EB 55 Annex 1, § 102; EB 62 Annex 13 § 7)	Not applicable to the project activity, as project start date has not yet occurred. Please, see comment in B.4.2.1.		n.a	n.a.
B.4.2.9. Is the gap of documented evidences to secure the CDM status less than 3 years and are the evidences relevant for substantiating the action taken, credible, reliable and complete? (EB 62 Annex 13 § 8)	Not applicable to the project activity, as project start date has not yet occurred. Please, see comment in B.4.2.1.		n.a	n.a
B.4.2.10. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM? (EB 62 Annex 5, § 7) <i>Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.</i>	Not applicable to the project activity.		n.a	n.a
B.4.2.11. Can the CDM involvement in the decision	<i>Description:</i> the PP has participated in the Public Tender No.	/PDD/	CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>assessed as serious?</p> <p>(EB 55 Annex 1, § 104(b)–(c))</p> <p><i>Describe whether or not the project would have been undertaken without the incentive of the CDM.</i></p>	<p>2010LI-000020-PROV during year 2011.</p> <p>During the first phase of the tender the ICE has considered the project as legally and technically viable. During the second phase which the price is assessed the energy price proposed by the PP has not been selected by ICE and therefore the tender was not awarded to Orosi wind Park.</p> <p>After the Public Tender No. 2010LI-000020-PROV ended, the ICE has invited the PP through a direct contract mechanism. The PP has presented its proposal through the Concession Agreement No. 2011CD-003636-PROV using the same price of energy awarded in the Public Tender No. 2010LI-000020-PROV.</p> <p>At the time of on site visit the official notification by the ICE has not been awarded to the PP. The PP estimates that such notification would be given in some weeks.</p> <p>As soon as the Orosi wind Park is awarded with the Concession Agreement No. 2011CD-003636-PROV the PP has to pay a performance bond (warranty) which represents a commitment to expenditures related to the implementation of the project activity. Therefore this would be considered as the project starting date.</p> <p>It is important to mention that if the PP is awarded with the Concession Agreement the scheme applicable to the project activity will be a BOT project (Build, Operate and Transfer) which is the common practice in Costa Rica for private developers who aim to install a generation project up to 50 MW.</p> <p>A BOT scheme considers that after 20 years the ownership of the plant is transferred to the ICE and no compensation is paid back to the PP (Chapter 2 section 16.8 & chapter 7 of the Particular conditions of direct contract mechanism. No. 2011CD-003636-</p>	<p>/FD/ /IRR/ /IM01/ /tender/</p>	<p>€4</p>	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>PROV^{/tender-3/}). The construction period is included in this period which leads approximately to 18 years to sell energy to the ICE.</p> <p>Although the project start date has not yet occurred, the ultimate conclusion on the subject (i.e. if project would or not have been implemented without CDM) shall be based upon the assessment of the financial analysis, depending on the outcome of the assessment of the corrective actions for the corresponding CARs and CLs raised in this section.</p> <p><i>Justification of evidences:</i> The financial spreadsheet^{/IRR/} was reviewed in detail and the IRR of the project activity without CDM is lower than benchmark so that the project to be considered attractive. However, several findings have been raised and need to be closed before forming a concluding opinion.</p> <p><i>Conclusion:</i> the ultimate conclusion on the subject (i.e. if project would or not have been implemented without CDM) shall be based upon the assessment of the financial analysis, depending on the responses to the corresponding CARs and CLs raised in this section.</p>			
B.4.3. Identification of alternatives Step 1 (in case of SSC projects pl. skip steps 1 and 2 if appropriate)				
B.4.3.1. Does the list of alternatives contain the status-quo situation, the project not undertaken as a CDM project as well as all other viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?	<p><i>Description:</i> Yes, the list of alternatives contains the status-quo and the project activity not undertaken as a CDM project</p> <p>Methodology ACM0002 defines the baseline scenario to be applied to the project activity, which is <i>'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)</i></p>	/PDD/ /ACM 0002/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, §§ 105–107) <i>Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.</i>	<i>calculations described in the “Tool to calculate the emission factor for an electricity system”.</i> <i>Justification of evidences:</i> applied methodology and PDD were checked. <i>Conclusion:</i> The list of alternatives contains the status-quo and the project activity not undertaken as a CDM project.			
B.4.3.2. Have all realistic alternatives been identified to the project? (EB 55 Annex 1, §§ 105–107) <i>Describe whether the list of alternatives is credible and complete. Describe how it is validated that the alternatives are realistic.</i>	<i>Description:</i> As the baseline is directly given by the methodology ACM0002, the selection of alternatives is not required. <i>Justification of evidences:</i> ACM0002 gives the baseline directly and there is no requirement for identification of baseline alternatives. <i>Conclusion:</i> Project complies with ACM0002	/PDD/ /ACM 0002/	OK	OK
B.4.3.3. Do all identified alternatives comply with enforced legislations? (EB 55 Annex 1, §§ 106(c)) <i>Describe the steps taken to validate this issue. Refer to the legislations.</i>	<i>Description:</i> Yes, all alternatives described in the PDD are in agreement with mandatory laws and regulations ^{/LAW/} . The proposed CDM project activity fulfils with applicable legislation. <i>Justification of evidences:</i> There is no legislation in Costa Rica preventing any of the identified alternatives. <i>Conclusion:</i> All alternatives described in the PDD comply with mandatory laws and regulations.	/LAW/	OK	OK
B.4.4. Investment analysis Step 2 <i>In case the investment analysis as per step 2 is chosen to justify the additionality Annex 2 “Assessment of Financial Parameters” has to be used to provide additional details of the the calculation parameters..</i>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.4.4.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs?</p> <p>(EB 55 Annex 1, § 108)</p>	<p><i>Description:</i> In the Draft PDD benchmark analysis is the basis of additionality determination and according to financial excel sheet provided. The project was evaluated considering 25% equity. As debt was used in the investment; therefore loan repayments and interests were included in the project IRR calculation. Therefore equity IRR is the financial indicator chosen. According to Draft PDD the IRR is below the benchmark, and hence not the most financially attractive alternative. However, several findings have been raised and need to be closed before forming an opinion.</p> <p><i>Justification of evidences:</i> PDD, financial spread sheet and supporting evidences have been revised in detail.</p> <p><i>Conclusion:</i> Refer to CARs/CLs raised in this section.</p>	<p>/PDD/ /FD/ /IRR/</p>	<p>CAR B2</p>	<p>OK</p>
<p>B.4.4.2. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)?</p> <p>(EB 55 Annex 1, § 108; EB 39 Annex 10)</p> <p><i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.</i></p>	<p><i>Description:</i> Yes, the chosen approach for demonstrating the additionality of the project is the Benchmark Analysis (Option III).</p> <p><i>Justification of evidences:</i> The project activity generates economic benefits with the sale of energy, therefore the simple cost analysis (Option I) cannot be used. As there is no evidence that the proposed baseline scenario does not leave any other option to the PPs than to make an investment to supply the same product or service, the investment comparison analysis (Option II) cannot be used. Benchmark analysis (Option III) is appropriate and the best method to demonstrate additionally for a project implemented with the sole purpose of energy generation for commercialization.</p> <p><i>Conclusion:</i> Benchmark Analysis was appropriately chosen as method of analysis.</p>	<p>/PDD/ /TA/ /GAIA/ /IRR/</p>	<p>OK</p>	<p>OK</p>
<p>B.4.4.3. Is a clear, viewable and unprotected Excel spreadsheet available for the investment</p>	<p><input type="checkbox"/> Yes, a clear, viewable and unprotected Excel spreadsheet is available.</p>	<p>/IRR/</p>	<p>CAR B2</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>calculation?</p> <p>(EB 55 Annex 1, § 110; EB 51, Annex 58, §8)</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><input checked="" type="checkbox"/> No, a respective Excel spreadsheet needs to be made available for investment calculation.</p> <p>In this context the following additional findings have been identified:</p> <p>(CAR B2) Some value of the parameters were wrongly applied or no evidence were provided to crosscheck the value applied:</p> <p>Some value of the parameters were wrongly applied or no evidence were provided to crosscheck the value applied:</p> <ol style="list-style-type: none"> 1. Information regarding CAPEX is not disaggregated according to evidence checked during on site visit. 2. Evidence of the following items was not provided during on site visit: <ul style="list-style-type: none"> • Calculation of interest during construction and Fees and commissions during construction (item 9 of the Validation Report, Annex 3) • Lender and other financial costs (item 11 of the Validation Report, Annex 3) was not provided during on site visit. 3. Calculation to demonstrate O&M costs (item E of the Validation Report, Annex 3) was not provided during on site visit. 4. Calculation to demonstrate the interest and payment rates (6.40% & 9.05%) was not provided during on site visit (item F of the Validation Report, Annex 3). 5. Further clarification is required regarding the method used to calculated depreciation (item G of the Validation Report, Annex 3) 			
B.4.4.4. Does the period chosen for the investment	<i>Description:</i> The period of investment analysis considers 20 years,	/IRR/	CL-C2	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 3 – 4) <i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.</i></p>	<p>and the technical lifetime of wind turbines stated in the Type Certificate for the wind turbine done by Germanischer Lloyd is 20 years. Nevertheless according to the PP the project activity is a BOT project (Build, Operate and Transfer) which is the common practice in Costa Rica). After 20 years the ownership of the plant is transferred to the ICE and no compensation is paid to the PP.</p> <p>Furthermore according to the manufacturer based on the Type Certificate for the wind turbine done by Germanischer Lloyd the expected operational life time of the Turbines is 20 years.</p> <p><i>Justification of evidences:</i> The Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV^{/tender-2/} were checked. The analysis period is evidenced in the IRR calculation sheet.</p> <p><i>Conclusion:</i> The period chosen for investment analysis reflect the expected operational lifetime of the project activity which is 20 years. Nevertheless a CL was raised because the operational lifetime was wrongly identified. Please refer to CL C2</p>	<p>/TECH/ /tender_2/</p>		
<p>B.4.4.5. Is the (remaining) technical lifetime of existing or project equipment defined in accordance with the guidance of the <i>Tool to determine the remaining lifetime of equipment?</i></p> <p>(EB 50 Annex 15)</p>	<p><i>Not applicable to the project activity.</i></p>		<p>n.a.</p>	<p>n.a.</p>
<p>B.4.4.6. Is the fair value calculated in accordance with local accounting regulations (where</p>	<p><i>Description:</i> The period of analysis is conservative (20 years), and in line with EB 62 Annex 5.</p>	<p>/IRR/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
available) or international best practice? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 4) <i>State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.</i>	No remaining technical lifetime of the project is considered, as the period chosen for the investment analysis reflect the technical lifetime (20 years) of the project activity.. <i>Justification of evidences:</i> The Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV ^{/tender-2/} were checked. <i>Conclusion:</i> As this is a BOT Build-Operate-Transfer project, no fair value is considered in the IRR calculation. According to the Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV ^{/tender-2/} , after 20 years, the PP shall give back the project to the electricity authority of the host country without any compensation			
B.4.4.7. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 4)	Refer to checklist questions B.4.4.4. and B.4.4.6 above.	/IRR/	OK	OK
B.4.4.8. Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 5)	<i>Description:</i> Yes, the depreciation has been added back to the net profits as required by EB 62 Annex 5. <i>Justification of evidences:</i> National tax and accounting legislation ^{/LAW-6/} and the investment analysis spread sheet ^{/IRR/} were reviewed in detail. <i>Conclusion:</i> The PP has added back depreciation to net profits for the calculation of the equity IRR.	/IRR/ /GAIA/ /LAW/	OK	OK
B.4.4.9. Were the input values used in the	<i>Description:</i> yes, all input data were valid and available at the time	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
investment analysis valid and applicable at the time of the investment decision? (EB 55 Annex 1, § 109,112; EB 62 Annex 5, § 6) <i>In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.</i>	of investment decision. <i>Justification of evidences:</i> The investment analysis spread sheet and supporting evidences ^{/FD/} was reviewed in detail. For a detailed analysis please refer to Table A-3 Annex 3. <i>Conclusion:</i> all inputs values were available valid and applicable at the time of investment decision.	/IRR/ /FD/ /IM01/ /IM02/ /IM03/		
B.4.4.10. Is the plant load factor (PLF) chosen in a conservative manner, taking into account that the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER? (EB 48, Annex 11)	<i>Description:</i> The PLF used both in financial analysis and emission reduction calculation is based on an assessment report prepared by third party from <i>GL Garrad Hassan</i> , hence in line with EB48 Annex 11. <i>Justification of evidences:</i> Garrad Hassan report has been reviewed by validation team. This company is a leading company in wind measurement and yield assessment and certification and therefore the value can be considered reliable. The PDD was also reviewed. <i>Conclusion:</i> PLF has been chosen in line with EB 48, Annex 11.	/PDD/ /IRR/ /PLF/ /IM01/ /IM02/ /IM03/	OK	OK
B.4.4.11. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 9)	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Yes, the costs of financing expenditures have been excluded. <input type="checkbox"/> No, this requirement is not met. In this context the following additional findings have been identified: N/A	/IRR/	n.a.	n.a.
B.4.4.12. In cases where a post-tax benchmark is	<input type="checkbox"/> N/A (Project IRR is calculated and hence interest is not	/IRR/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>applied please ensure that actual interest payable is taken into account in the calculation of income tax.</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 11) <i>If this is not the case, ensure that taxation is excluded from the investment analysis.</i> <i>As per the guidance it is recommended to select a pre tax benchmark in order to describe the steps taken in assessing this requirement.</i></p>	<p>considered at all)</p> <p><input checked="" type="checkbox"/> Yes, the interest has been taken into account. <input type="checkbox"/> No, this requirement is not met.</p> <p>In this context the following additional findings have been identified: N/A</p>			
<p>B.4.4.13. In case of equity IRR: Is the part of the investment costs, which is financed by equity, considered as net cash outflow and is the part financed by debt excluded in net cash outflow?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 10)</p>	<p><input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes, in- and outflows have been considered correctly. <input type="checkbox"/> No, this requirement is not met.</p> <p>In this context the following additional findings have been identified: N/A</p>	/IRR/	OK	OK
<p>B.4.4.14. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?</p> <p>(EB 55 Annex 1, § 111; EB 62 Annex 5, §§12 – 18) <i>In case risk premiums are applied precisely describe its suitability to reflect the risks associated with the project activity, considering the project type and market situation.</i></p>	<p><i>Description:</i> Yes, the PP is using the default benchmark value for returns on equity as defined in EB 62 Annex 5. The financial calculation chosen by PP is carried out for equity IRR and hence the default benchmark in EB62 Annex 5 (paragraph 8) is deemed appropriate and conservative.</p> <p><i>Justification of evidences:</i> The IRR calculation excel sheet, PDD and EB 62 Annex 5^{/GAIA/} guidance requirements were reviewed in detail.</p> <p><i>Conclusion:</i> The type of benchmark is appropriate for type of IRR.</p>	/PDD/ /IRR/ /GAIA/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>B.4.4.15. Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, §§13 – 18) <i>Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.</i></p>	<p><i>Description:</i> Yes, as explained just above the default IRR benchmark defined in the EB 62 Annex 5 guidance^{/GAIA/} can be considered a suitable and conservative benchmark.</p> <p><i>Justification of evidences:</i> The IRR calculation excel sheet, PDD and EB 62 Annex 5^{/GAIA/} guidance requirements were reviewed in detail.</p> <p><i>Conclusion:</i> The benchmark value is suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark.</p>	/IRR/ /GAIA/	OK	OK
<p>B.4.4.16. Is it ensured that the project cannot be developed by other developers than the PP?</p> <p>(EB 55 Annex 1 § 109; EB 62 Annex 5, §§ 13 – 14) <i>Describe why the benchmark does not include the subjective profitability expectations or risk profile of the project developer. If applicable assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects.</i></p>	<p><i>Description:</i> As described in B.4.4.15, the project is using the default value available in EB 62 Annex 5 guidance^{/GAIA/} which is publicly available and conservative and provided by UNFCCC; hence the benchmark does not include the subjective profitability expectations or risk profile of the project developer.</p> <p><i>Justification of evidences:</i> The PDD and EB 62 Annex 5 guidance requirements were reviewed^{/GAIA/}.</p> <p><i>Conclusion:</i> The benchmark does not include the subjective profitability expectations or risk profile of the project developer.</p>	/PDD/ /IRR/ /GAIA/	OK	OK
<p>B.4.4.17. Was the benchmark consistently used in the past for similar projects with similar risks?</p> <p>(EB 55 Annex 1, § 112(c))</p>	<p><i>See comments above.</i></p>		n.a.	n.a
<p>B.4.4.18. Does the PDD and related spreadsheets contain a sensitivity analysis and does the</p>	<p><i>Description:</i> Yes, a sensitivity analysis is included in the PDD and financial spreadsheet. Key parameters which may vary throughout</p>	/PDD/	CAR B3	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>same contain variation of parameters which may vary throughout the project lifetime,</p> <p>(EB 55 Annex 1, §§ 109–110(e); EB 62 Annex 5, § 20-21)</p> <p><i>Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.</i></p>	<p>the project lifetime were included. As described in the PDD and clearly demonstrates in the financial spread sheet, a sensitivity analysis of the following items were performed:</p> <ul style="list-style-type: none"> • Revenues (price / generation) • Investment cost • O&M costs • Interest <p>Those values constitute more than 20% of the total project costs and total project revenues respectively. The applied range of variation (+/-10%) is reasonable in the specific context of the project activity.</p> <p><i>Justification of evidences:</i> PDD and financial spread sheet^{/IRR/} were reviewed in detail. For more details of assessment of each financial parameter, please refer to Table A-3 Annex 3.</p> <p><i>Conclusion:</i> A sensitivity analysis has been carried out and contains parameters which may vary throughout the project lifetime. Nevertheless a finding was raised.</p> <p>(CAR B3) Resulting IRR applying the sensitivity analysis is missing in section B.5.</p>	<p>/IRR/</p>		
<p>B.4.4.19. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 20)</p>	<p><i>Description:</i> No parameter constituting less than 20% of total project costs or revenues has been identified with potential material impact on the financial parameter</p> <p><i>Justification of evidences:</i> PDD and spread sheet^{/IRR/} were reviewed in detail.</p> <p><i>Conclusion:</i> Sensitivity analysis was performed considering only variables that constitute more than 20% of total projects costs and</p>	<p>/PDD/ /IRR/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	project revenues.			
<p>B.4.4.20. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 20) <i>Describe whether those parameters are considered in the sensitivity analysis?</i></p>	<p><i>Description:</i> No, no other parameters with material impact were identified.</p> <p><i>Justification of evidences:</i> PDD and spread sheet^{/IRR/} were reviewed in detail.</p> <p><i>Conclusion:</i> No other parameters with material impact were identified.</p>	<p>/PDD/ /IRR/ /FD/</p>	OK	OK
<p>B.4.4.21. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector?</p> <p>(EB 55 Annex 1, § 109; EB 62 Annex 5, § 21) <i>Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.</i></p>	<p><i>Description:</i> Yes, the range of variation applied was + 10% to -10% and it is deemed appropriate by the validation team, considering that the input values applied are deemed adequate and conservative, as described in the assessment of each financial parameter in Table A-3 Annex 3.</p> <p><i>Justification of evidences:</i> The PDD and spread sheet^{/IRR/} were reviewed in detail. Each financial parameter was reviewed and validated carefully considering submitted evidences, public available sources of information and the local expertise of the validation team. The variation is in line with latest EB guidance^{/GAIA/}.</p> <p><i>Conclusion:</i> The variation applied is considered appropriate in the context of the project activity, taking in consideration historic trends in the business sector.</p>	<p>/PDD/ /IRR/ /GAIA/ /unfccc/</p>	OK	OK
B.4.5. Barrier analysis Step 3 or SSC additionality assessment				
<p>B.4.5.1. Are there any barriers given which have a clear and direct impact on the financial</p>	<i>No barrier is included in the PDD to demonstrate additionality.</i>		n.a	n.a

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
returns of the project? (EB 55 Annex 1, §§ 115, 134, 137) <i>In case of LSC projects those issues cannot be considered as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 62 Annex 5.</i>				
B.4.5.2. Are the barriers described risk related (e.g technology failure, other performance related risks)? (EB 55 Annex 1, §§ 116, 134, 137) <i>Are there other barriers or barriers due to prevailing practice existent which would have led to higher emissions?</i>	<i>No barrier is included in the PDD to demonstrate additionality.</i>		n.a	n.a
B.4.5.3. Has the unavailability of means of finance for the proejct been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the project was assured only due to the benefit of the CDM? (EB 55 Annex 1, §§ 116, 137, EB 50 Annex 13, § 9)	<i>No barrier is included in the PDD to demonstrate additionality.</i>		n.a	n.a
B.4.5.4. How is it justified and evidenced that the barriers given in the PDD are real? (EB 55 Annex 1, § 116(a))	<i>No barrier is included in the PDD to demonstrate additionality.</i>		n.a	n.a
B.4.5.5. How is it justified that one or a set of real barriers prevent(s) the implementation of	<i>No barrier is included in the PDD to demonstrate additionality.</i>		n.a	n.a

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
the project activity and do not prevent the implementation of at least one of the alternatives? (EB 55 Annex 1, § 116(b))				
B.4.5.6. Does the review of relevant background information on the nature of the company(ies) and entity(ies) involved in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real? (EB 50 Annex 13, § 4)	<i>No barrier is included in the PDD to demonstrate additionality.</i>		n.a	n.a
B.4.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers? (EB 50 Annex 13, § 5)	<i>No barrier is included in the PDD to demonstrate additionality.</i>		n.a	n.a
B.4.5.8. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated? (EB 50 Annex 13, § 7) <i>Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analysing the project's additionality within the framework of an</i>	<i>No barrier is included in the PDD to demonstrate additionality.</i>		n.a	n.a

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>investment analysis is inappropriate. .</i>				
B.4.6. Common practice analysis Step 4 (in case of SSC projects skip this step)				
<p>B.4.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type?</p> <p>(EB 55 Annex 1, § 120(a)) <i>Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.</i></p>	<p><i>Description:</i> The defined region established in the PDD for comparison with other industries is the host country and is deemed appropriate.</p> <p>According to step 4 of the Tool for the demonstration and assessment of additionality for measures that are listed in paragraph 6 such as the use of renewable energies the common practice analysis shall be performed following four steps stated in paragraph 47.</p> <p><i>Justification of evidences:</i> PDD and Tool for the demonstration and assessment of additionality were checked accordingly.</p> <p><i>Conclusion:</i> The defined region established in the PDD is appropriate and in accordance with the Tool for the demonstration and assessment of additionality.</p> <p>The common practice analysis stated in the PDD follows the approach required by the additionality tool^{TA/}.</p>	<p>/PDD/ /TA/ /EF/</p>	OK	OK
<p>B.4.6.2. To what extent similar projects have been undertaken in the relevant region?</p> <p>(EB 55 Annex 1, § 120(b))</p>	<p><i>Description:</i> Calculation of similar projects identified in the relevant region has to follow the approach stated in paragraph 47 of the Tool for the demonstration and assessment of additionality. No similar projects have been identified.</p> <p><i>Justification of evidences:</i> PDD and Tool for the demonstration and assessment of additionality were checked accordingly. Moreover, list of power plants in Costa Rica has also been reviewed.</p>	<p>/PDD/ /TA/ /EF/</p>	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<i>Conclusion:</i> The PP followed the approach stated in paragraph 47 of the Tool for the demonstration and assessment of additionality.			
<p>B.4.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed?</p> <p>(EB 55 Annex 1, § 120(c))</p>	<p><i>Description:</i> No similar projects have been identified.</p> <p><i>Justification of evidences:</i> PDD and Tool for the demonstration and assessment of additionality were checked accordingly. Moreover, list of power plants in Costa Rica has also been reviewed.</p> <p><i>Conclusion:</i> No similar projects have been identified. The project activity is not common practice in the host country. Nevertheless a small mistake has been identified.</p> <p>(CAR B4) Common practice analysis. Installed capacity of San Lorenzo Pocosol Power Plant (26,000 MW) is incorrect (observed 39,700).</p>	/PDD/ /TA/ /EF/	CAR B4	OK
<p>B.5. Ex-Ante Calculation of GHG Emission Reductions</p> <p><i>It is assessed whether the ex-ante calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.</i></p>				
<p>B.5.1. Are the equations applied correctly according to the applied approved methodology?</p> <p>(EB 55 Annex 1, §§ 67(c), 89–90, 92)</p> <p><i>Describe clearly the steps taken to assess whether the</i></p>	<p><input type="checkbox"/> The equations applied for calculation are correctly applied according to the approved methodology.</p> <p><input checked="" type="checkbox"/> The following mistakes have been identified in this context:</p>	/PDD/ /XLS/	CAR B5	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.</i>	<p>(CAR B5) Mistakes were detected in the emission factor calculation spread sheet:</p> <p><u>Tab "Operating Margin":</u></p> <ol style="list-style-type: none"> Option A2 was not used to calculate the EF for Guapiles/Orotina plant as data of fuel consumption is not available for year 2008. Clarification is required. NCV of diesel is incorrect 36.64TJ/m³ (observed 36.46 TJ/m³) 			
<p>B.5.2. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p>(EB 55 Annex 1, §§ 90–91)</p> <p><i>Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i></p>	<p><i>Not applicable as the methodology does not allow such choices.</i></p>		n.a	n.a
<p>B.5.3. Have conservative assumptions been used when calculating the project emissions?</p> <p>(EB 55 Annex 1, §§ 90–91)</p> <p><i>Describe clearly the steps taken to assess whether all the</i></p>	<p><i>Description:</i> The baseline emissions are calculated based on net energy generated multiplied by the combined margin emission factor (EF_{CM}) calculated according to the "Tool to Calculate the emission factor for an electric system"^{*/TEF/} based on the public information available from ARESEP and ICE. The PP used the</p>	/EF/ /XLS/ /ACM 0002/	CAR B5	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p><i>assumptions and data used by the PP are listed in the PDD including references and sources and are conservatively interpreted in the PDD.</i></p>	<p>simple adjusted OM for the grid emission factor.</p> <p>The ARESEP continuously publishes the power generation data for each power plant. Data can be downloaded from the ARESEP web site showing the final power generation for each plant.</p> <p>The power generation per power plant was determined by the PP based on yearly generation data. The reports from the ARESEP website were reviewed. All the data used was correct.</p> <p>Regarding the fossil fuel consumption for each power plant, the amount of fuel consumed per power plant is published also in the ARESEP website. Regarding fuel type used by each plant data can be found in the “<i>Factors to calculate the GHG of the National Electric System and its application for a 2010 inventory</i>” by ICE^{/EF-3/}.</p> <p>The commissioning date for the power plants was reviewed based on the ARESEP website.</p> <p>The lower fossil fuels emission factor published in the IPCC guideline 2006 were used. This is in accordance to the tool^{/TEF/} requirements.</p> <p>ICE published^{/EF-3/} the “<i>Factors to calculate the GHG of the National Electric System and its application for a 2010 inventory</i>” including information of calorific values for different type of fuels.</p> <p>The period selected for the ex-ante calculation of the grid emission factor was 2008, 2009 and 2010; this approach was selected by the PP. At the time of submission of the PDD to the validation DOE data of the Costa Rican grid was available till year 2010.</p> <p>The grid emission factor has been calculated and fixed ex-ante.</p> <p>Regarding the Build Margin (BM), the sample group <i>m</i> has been defined as per the procedure of the tool. The most recent built</p>	<p>/IPCC/ /TEF/ /aresep/ /cnfl/</p>		

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>power plants were determined based on the reports from the ARESEP web site, Expansion Plan of Electricity Generation^{/EF-4/}, and the CNFL web site.</p> <p>The rest of information used for the project and baseline emission has also been reviewed.</p> <p><i>Justification of evidences:</i> Data used is adequate as the power generation data is publicly available. The emission factor and emission reductions calculation^{/XLS/} spread sheets were reviewed. The “Tool to Calculate the emission factor for an electric system”^{/TEF/} and the IPCC guideline 2006 and was checked accordingly. Moreover the consolidated data was downloaded directly from the ARESEP. The ICE publication^{/EF-3/} was also checked.</p> <p><i>Conclusion:</i> The calculation of the OM and BM has been checked. Conservative assumptions were used to calculate emission reductions. Nevertheless, some mistakes were detected in the emission factor calculation spreadsheet. CAR B5 was raised, please refer to it.</p>			
<p>B.5.4. Does the implementation of the project activity lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology?</p> <p>(EB 55 Annex 1, § 77)</p>	<p><i>No other emission sources than those described in the methodology have been identified.</i></p>		n.a.	n.a.
<p>B.5.4.1. Has a plant load factor (PLF) been defined ex-ante and considered for determination</p>	<p><i>Description:</i> The PLF used both in financial analysis and emission reduction calculation is based on an assessment report prepared</p>	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>of baseline emissions?</p> <p>(EB 48 Annex 11, §§ 1, 3–4)</p> <p><i>Describe why the PLF is conservative in the framework of calculating emissions reductions and whether the PLF is the same in the framework of demonstrating additionality by applying the investment analysis. Note, in order to be conservative in both cases the PLF may be different.</i></p>	<p>by third party <i>GL Garrad Hassan</i>, hence in line with EB48 Annex 11.</p> <p><i>Justification of evidences:</i> Garrad Hassan report has been reviewed by validation team. This company is a leading company in wind measurement and yield assessment and certification and therefore the value can be considered reliable. The PDD was also reviewed.</p> <p><i>Conclusion:</i> PLF has been chosen in line with EB 48, Annex 11.</p>	<p>/IRR/ /PLF/ /IM01/</p>		
<p>B.5.5. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions?</p> <p>(EB 55 Annex 1, § 91)</p> <p><i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.</i></p>	<p><i>Description:</i> Yes, the Operating Margin and the Build Margin were calculated in accordance with the latest version of the “Tool to Calculate the emission factor for an electric system”^{/TEF/}. Also other variables used in the emission reductions^{/XLS/} calculations are adequate.</p> <p><i>Justification of evidences:</i> The grid emission factor and emission reductions calculation spread sheets were reviewed^{/EF/ and /XLS/}.</p> <p><i>Conclusion:</i> All applied formulae and methods for calculating baseline emissions are in accordance with the approved methodology and applied tools. No project or leakage emissions are considered for this project.</p> <p>Almost all assumptions used in the emission calculation spread sheet have been correctly justified and referenced. Nevertheless some mistakes have been identified between the source used and the excel calculation spread sheet as indicated in CAR B5</p>	<p>/EF/ /TEF/ /XLS/</p>	<p>CAR B5</p>	<p>OK</p>
<p>B.5.6. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable?</p>	<p><input checked="" type="checkbox"/> All “Values of data to be applied for the purpose of calculating expected emissions reductions” are considered to be reasonable, applicable and conservative.</p>	<p>/PDD/ /PLF/ /XLS/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 91) <i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of the project activity</i>	<input type="checkbox"/> The following mistakes have been identified in this context:			
B.5.7. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. <i>Describe the steps taken to validate this issue.</i>	<i>Description:</i> some findings have been raised and have to be closed out before forming an opinion. <i>Justification of evidences:</i> The PDD and excel spreadsheet ER calculations were checked. <i>Conclusion:</i> Please refer to the findings raised in this report.	/PDD/ /XLS/	CAR B5	OK
B.6. Monitoring of Emission Reductions <i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i>				
B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan? (EB 55 Annex 1, §§ 67(e), 121, 123(a), 124) <i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i> <i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.</i> <i>In case of different approaches can be chosen acc. to the</i>	<i>Description:</i> Yes, all monitoring parameters required by the applied methodology and applicable tools are contained in the monitoring plan. <i>Justification of evidences:</i> PDD, methodology ACM0002 and applied EF tool were reviewed. <i>Conclusion:</i> all monitoring parameters required by the applied methodology and the applied EF tool are included in section B.7.1 of the PDD.	/PDD/ /ACM 0002/ /TEF/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>methodology assess whether the selection of parameters is justified and correct.</i>				
<p>B.6.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the applied methodology?</p> <p>(EB 55 Annex 1, § 123(a)–(b), 124)</p> <p>Assess whether the provided information for all parameters w.r.t.</p> <ul style="list-style-type: none"> a) Label (name of the data / parameter) b) data unit c) description d) source of data e) measurement equipment / method / procedure f) monitoring frequency g) QA/QC procedures <p>are appropriately described and in compliance with the requirements of the methodology..</p>	<p><i>Description:</i> The only parameter need to be monitored is the net Electricity supplied by the project to the grid (EG_{PJ,y}).</p> <p><i>Justification of evidences:</i> Section B.7.1 of the PDD was crosschecked against the applied methodology and the applied tool.</p> <p><i>Conclusion:</i> Information defined for parameter EG_{PJ,y} is not complete and in compliance with the Guidelines for completing CDM-PDD. Therefore a CL was raised.</p> <p>(CL B6) According to the Guidelines for completing the PDD, the following information is missing in section B.7.1:</p> <ul style="list-style-type: none"> • Description of measurement methods and procedures to be applied: indication of local standards for calibration including calibration frequency, quantity of meters, function (main/back up), type (uni/bidirectional), accuracy class and location of meters. • QA/QC procedures to be applied: detailed description of the cross-check procedures according to the applied methodology. 	<p>/PDD/ /ACM 0002/ /TEF/ /GCP/</p>	CL-B6	OK
<p>B.6.3. Are all parameters presented as per international standards?</p> <ul style="list-style-type: none"> a) Format: Standard format (e.g. 1,000 representing one thousand and 1.0 representing one). b) Units: Values shall be directly given in SI units – or 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Standard formats have been used <input checked="" type="checkbox"/> SI units were used – or added <input checked="" type="checkbox"/> The short scale naming is correct <p>In this context the following additional findings have been identified:</p>	/PDD/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p><i>additionally to original units transferred to SI.</i></p> <p>c) <i>Short scale naming system: (Only) million = 10⁶ and billion 10⁹ shall be used.</i></p> <p><i>Please refer to the International System of Units (SI) as published within Guidance 11/08.</i></p>	<p>n.a.</p>			
<p>B.6.4. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology?</p> <p>(EB 55 Annex 1, §§ 123(b), 124)</p> <p><i>Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.</i></p> <p><i>Please consider that additional equations might be necessary to calculate auxiliary parameters.</i></p>	<p><i>Description:</i> All equations necessary for ex-post calculation of emissions reductions are correctly described in section B.6.1 of the PDD and in line with the methodology.</p> <p><i>Justification of evidences:</i> The PDD was reviewed and compared with the equations provided in ACM0002 and Tool for calculating the emission factor of an electricity system.</p> <p><i>Conclusion:</i> All necessary equations for ex-post emission reduction calculation have been correctly and clearly described and are in line with the methodology. Nevertheless</p> <p>(CAR B7) The following information is missing in section B.6.1 of the PDD:</p> <ul style="list-style-type: none"> • Steps to calculate Lambda. • Description of option chosen is missing as per step 6 of the applied tool. • Description of the elements of the formula as per step 6 of the applied tool. <p>(CAR B8) According to the Guidelines for completing the PDD, version 07, section B.6.3: "Document how each equation is applied, in a manner that enables the reader to reproduce the calculation."</p>	<p>/PDD/ /ACM 0002/ /TEF/ /GCP/</p>	<p>CAR B7 CAR B8</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Correction is required.			
<p>B.6.5. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity?</p> <p>(EB 55 Annex 1, § 124(c)) <i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.</i></p>	<p><i>Description:</i> Yes, It is likely that monitoring arrangements consisting of electricity meters for electricity generation will be implemented at project site and connection point to the grid and proper staff will be assigned to perform CDM monitoring activities.</p> <p><i>Justification of evidences:</i> PDD was reviewed accordingly. Interviews were performed on site.</p> <p><i>Conclusion:</i> It is likely that the monitoring arrangements described in the PDD can be properly implemented.</p>	/PDD/ /ACM 0002/	OK	OK
<p>B.6.6. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activity can be reported ex-post and verified?</p> <p>(EB 55 Annex 1, § 124(b)) <i>Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</i></p>	<p><i>Description:</i> QA/QC procedures were described in PDD, However some clarifications are required and hence CL B6 was raised.</p> <p><i>Justification of evidences:</i> The PDD document was crosschecked with methodology ACM0002 requirements and Guidelines for completing the PDD.</p> <p><i>Conclusion:</i> Refer to CL B6 just above.</p>	/PDD/ /ACM 0002/ /GCP/	CL-B6	OK
<p>B.6.7. Are procedures identified for data management?</p> <p>(EB 55 Annex 1, § 124(b)) <i>Check whether appropriate provisions are considered for data management including responsibilities, what records to</i></p>	<p><i>Description:</i> According to the applied methodology all data collected as part of monitoring should be archived electronically and be kept at least for 2 years after the end of the last crediting period.</p> <p><i>Justification of evidences:</i> PDD document and the applied</p>	/PDD/ /ACM 0002/	OK	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>keep, storage area of records and how to process performance documentation</i> <i>Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.</i>	methodology was reviewed. <i>Conclusion:</i> Procedures for data management have been included in the PDD.			
C. Duration of the Project/ Crediting Period <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>C.1. Is the project's operational lifetime clearly defined and evidenced?</p> <p><i>Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).</i></p> <p><i>Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.</i></p>	<p><i>Description:</i> The project operational lifetime has been defined in Section C.1.2 of the PDD as 20 years.</p> <p>The operational lifetime has been determined based on the scheme applicable to the project activity which will be a BOT project (Build, Operate and Transfer) which is the common practice in Costa Rica for private developers who aim to install a generation project up to 50 MW.</p> <p>A BOT scheme considers that after 20 years the ownership of the plant is transferred to the ICE and no compensation is paid back to the PP (Chapter 2 section 16.8 & chapter 7 of the Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV^{/tender-2/}). The construction period is included in this period which leads approximately to 18 years to sell energy to the ICE.</p> <p><i>Justification of evidences:</i> The Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV^{/tender-2/} was checked.</p> <p><i>Conclusion:</i> Operational lifetime is clearly defined and evidenced. Nevertheless reference about the project operational lifetime is missing in the PDD. Hence, CL C2 was raised.</p> <p>(CL C2) Reference of the operational life time of the project activity is missing in section C.1.2 of the PDD</p>	<p>/PDD/ /FD/ /tender/</p>	<p>CL C2</p>	<p>OK</p>
<p>C.2. Is the start of the crediting period clearly defined and reasonable?</p> <p><i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed</i></p>	<p><i>Description:</i> The starting date of the crediting period is clearly defined at section C.2.1.1 as 2014/01/01. The selected date is realistic considering time needed for validation and beginning of operation of project activity</p> <p><i>Justification of evidences:</i> PDD was checked Interviews were also</p>	<p>/PDD/ /IM01/ /IM02/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>for validation and registration.</i>	performed during on site visit. <i>Conclusion:</i> Starting date of the crediting period is clearly defined and realistic.			
D. Environmental Impacts <i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.</i>				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)? (EB 55 Annex 1, §§ 131–133) <i>Check the host party regulations, regarding EIA.</i>	<i>Description:</i> The SETENA is the entity in charge by the MINAET to analyse the environmental impact of new projects and to issue the environmental approval (environmental viability) of a project. The law 7554 ^{/LAW-4/} describes the requirements to present the EIA. <i>Justification of evidences:</i> The SETENA web site was checked. The law 7554 ^{/LAW-4/} which rules the environmental licensing process were checked. <i>Conclusion:</i> The EIA was presented to the authority on 2012/02/24 and at the time of on site visit it is still pending to be approved.	/IM01/ /IM02/ /IM03/ /LAW/ /EIA/ /setena/	OK	FAR D1
D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved? (EB 55 Annex 1, §§ 131–133) <i>Check the EIA and its approval, if applicable.</i>	<i>Description:</i> As stated above the EIA was presented to the Environmental Authority on 2012/02/24 and at the time of on site visit it is still pending to be approved. <i>Justification of evidences:</i> The SETENA web site was checked. The law 7554 ^{/LAW-4/} which rules the environmental licensing process were checked. <i>Conclusion:</i> The PP has presented the Environmental Impact	/IM01/ /IM02/ /IM03/ /IM05/ /LAW/	OK	FAR D1

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	Assessment ^{/EIA/} to the environmental authority on 2012/02/12. According to the PP approval of the EIA and issue of the environmental approval (environmental viability) of a project can be issued within 6 months. Furthermore during interview with the Costa Rican DNA Director ^{/IM05/} the EIA approval is a requirement to issue the LoA of a project. Therefore the EIA approval will be issued before Request of Registration take place.	/EIA/ /setena/		
<p>D.1.3. Has an analysis of the environmental impacts of the project activity been sufficiently described and in line with the host party environmental legislation?</p> <p>(EB 55 Annex 1, §§ 130–132) Check the PDD (section D). Check whether the project will create any adverse environmental effects. Check the relevant national environmental legislation.</p>	<p><i>Description:</i> Yes, the EIA includes an assessment of the environmental impacts of the project. It is also stated in the EIA the fulfilment of the national environmental regulation applicable to the project. No significant adverse impacts were identified.</p> <p><i>Justification of evidences:</i> The EIA was checked accordingly.</p> <p><i>Conclusion:</i> The PP complies with the national regulation defined by the environmental authority. The original documents were checked. No discrepancies were identified. At the time of on site visit the EIA approval is still pending.</p>	/IM01/ /IM02/ /IM03/ /LAW/ /EIA/ /setena/	OK	FAR D1
<p>D.1.4. Are transboundary environmental impacts considered in the analysis?</p> <p>(EB 55 Annex 1, §§ 131–133) Check the documents and local official sources / expertise regarding transboundary environmental impacts.</p>	<p><i>Description:</i> No transboundary impacts are envisaged for the project activity. All information regarding the environmental impacts of the project during construction and operation are identified in the EIA. The EIA is still pending of approval by the environmental authority.</p> <p><i>Justification of evidences:</i> The validation team has checked the EIA^{/EIA/}. No transboundary impacts are detected.</p> <p><i>Conclusion:</i> No transboundary environmental impacts were detected in the EIA presented to the Environmental authority. At the time of on site visit the EIA approval is still pending.</p>	/IM01/ /IM02/ /IM03/ /LAW/ /EIA/ /setena/	OK	FAR D1

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
E. Stakeholder Comments <i>The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i>				
<p>E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD?</p> <p>(EB 55 Annex 1, § 128)</p> <p><i>Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.</i></p>	<p><i>Description:</i> Yes, as described in section E.1 of PDD, several relevant stakeholders have been invited for the consultation prior to the publication of the PDD for GSC:</p> <ul style="list-style-type: none"> a) Local Municipality (Mayor and Environment Unit), b) Ministry of Environment, Energy and Telecommunications (MINAET), c) Regional Office of the National System of Protected Areas, d) Schools, e) ASADAs (Community Administered Aqueducts), f) Neighbors from the project's surroundings (landowners and farms workers), and g) Key representatives and residents from different towns and communities in the project's surroundings <p><i>Justification of evidences:</i> Invitations through invitation letters^{/SHCP/}, announce in a national newspaper and broadcasting at regional and national television have been presented to the validation team. In addition, the attendance list has been reviewed.</p> <p><i>Conclusion:</i> Relevant stakeholders have been invited to consultation prior to the publication of PDD for GSC.</p>	<p>/SHCP/ /IM01/ /IM02/ /IM03/ /IM04/</p>	<p>OK</p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>E.2. Can the local stakeholder consultation process be assessed as adequate? (EB 55 Annex 1, § 129(a)–(c))</p> <p><i>Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.</i></p> <p><i>Please consider the following requirements in this context:</i></p> <p><i>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</i></p> <p><i>(b) The summary of the comments received as provided in the PDD is complete;</i></p> <p><i>(c) The project participants have taken due account of any comments received and have described this process in the PDD.</i></p>	<p><i>Description:</i> Relevant stakeholders have been invited, by means of invitation letters and also by a national newspaper. Furthermore the PP has broadcast the announcement in regional and national television channels.</p> <p>The consultation process took place at Liceo de Quebrada Grande commune on 2012/01/19.</p> <p>Stakeholders' questions raised during the meeting were reviewed and no major concerns about the project activity have been identified. All questions raised were responded during the meetings.</p> <p>The PDD has been checked and it has been identified that the stakeholders' consultation information so as the summary of the comments received is complete.</p> <p><i>Justification of evidences:</i> All the stakeholder consultation evidences (invitation letters, photos, attendance list and documentation used during the consultation process (i.e. power point presentation)) were checked by the validation team. Moreover the validation team interviewed several people that assisted to the meeting in order to cross check the information provided by the PP.</p> <p><i>Conclusion:</i> The project complies with the requirements and local stakeholder process is deemed adequate.</p>	<p>/SHCP/ /IM01/ /IM02/ /IM03/ /IM04/</p>	<p>OK</p>	<p>OK</p>

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification (EB 55 Annex 1 §§83 – 86)

<input checked="" type="checkbox"/>	Baseline is not identified / Identified by the applied methodology
<input type="checkbox"/>	Assessment of baseline see below

Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	

ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3: Assessment of Financial Parameters (EB 55 Annex 1, §§ 111, 112, 114/ in case financial parameters stem from FSR §113,)

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
<u>A) TOTAL INVESTMENT</u>	127.654	Mio USD			<input checked="" type="checkbox"/>	<p>The total investment considers the following items:</p> <p>EPC costs: <u>89.673 Mio USD</u></p> <ol style="list-style-type: none"> 1. EPC (Turbines and supplies): 89.500 Mio USD 2. Miscellaneous: 0.173 Mio USD <p>Non EPC costs: <u>11.682 Mio USD</u></p> <ol style="list-style-type: none"> 3. Land rights: 3.295 Mio USD 4. Development costs: 7.267 Mio USD 5. Buildings: 0.5 Mio USD 6. Insurance: 0.62 Mio USD <p>Other costs: <u>7.015 Mio USD</u></p> <ol style="list-style-type: none"> 7. Contingencies: 5.319 Mio USD

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>8. Taxes: 1.696 Mio USD</p> <p>Financial expenses during construction: <u>19.284 Mio USD</u></p> <p>9. Interest, fees and commissions during construction: 8.947 Mio USD</p> <p>10. Prefunded debt service and maintenance reserve accounts: 7.005 Mio USD</p> <p>11. Lender and other financial costs: 3.332 Mio USD</p> <p>The total investment cost was calculated adding up the costs above. The calculation formulas in the excel sheet were checked and they are found correct.</p> <p>A CAR was raised due to some values were wrongly applied or no evidence were provided to crosscheck the value applied. Please refer to CAR B2.</p> <p>As already mentioned above the PP has participated in the Public Tender No. 2010LI-000020-PROV during year 2011. According to such Public tender the dead line to provide the document package including the financial information was on 9th June of 2011. Therefore no source of the investment costs is dated after this</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification									
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below									
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT					
					Correctness of value applied	Comment				
						<p>date with exception of the turbines and supplies as the <u>Non Binding</u> Supplier Commitment Letter ratified on 2011/09/01 (in order to get a better price) which represents a lower value than the original signed non Binding Supplier Commitment Letter signed with GAMESA on 2011/05/05. As this is a conservative assumption the validation team accepted such change.</p> <p>Concluding that all documents presented by the PP to demonstrate the total investment costs are available and valid at the time of investment decision.</p> <p>The validation team has reviewed all offers and references and it has been confirmed that the total project investment of US\$127.65 Mio is correct. This represents a project investment per installed MW of 2.55 Mio USD.</p> <p>The validation team cross-checked the cost per installed MW with some registered CDM projects in Latin America and it has been observed that the total investment per installed MW goes from 1.88 to 2.89 Mio USD. The project activity investment per installed MW remains between such range.</p> <table><tr><th>Project Name</th><th>(MioUSD/MW)</th></tr><tr><td>Project 0824: Tejona Wind Power Project</td><td>Not available</td></tr></table>	Project Name	(MioUSD/MW)	Project 0824: Tejona Wind Power Project	Not available
Project Name	(MioUSD/MW)									
Project 0824: Tejona Wind Power Project	Not available									

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						(TWPP) – Costa Rica
						Project 2174 : Santa Fe, Energy Wind farm – Panama Not available
						Project: 0194 Jepirachi Wind Power Project – Colombia Not available
						Project 4684 : Oaxaca I Wind Farm – Mexico 1.88
						Project 4147: Guanacaste Wind Farm – Costa Rica 1.93
						Project 1958 : Canela Wind Farm Project – Chile 2.10
						Project 2315 : Amayo 40 MW Wind Power Project – Nicaragua – Nicaragua 2.15
						Project 5305 : Amayo Phase II Wind Power Project - Nicaragua 2.42
						Project 3252 : Totoral Wind Farm Project - Chile 2.88
						Project 4449 : Monte Redondo Wind Farm Project – Chile 2.89

<input type="checkbox"/> No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/> Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>As the project is being developed in Costa Rica, the validation team checked all wind power projects registered in the host country. The other projects were chosen <u>randomly</u> to compare the total investment per installed MW of the project activity. Furthermore it is important to mention that no wind projects are registered in Guatemala, Honduras and El Salvador.</p> <p>As the sample of CDM projects chosen considers projects from the host country so as other similar projects in the nearby region (Latin America it is considered that the selected projects are appropriate and similar to the project activity,</p> <p>Hence, applying a project investment of 2.55 Mio USD/MW for the project activity is considered appropriate.</p> <p>It is important to mention that all figures included in the financial analysis were the same as those used in the public Public Tender No. 2010LI-000020-PROV (with exception of the turbines and supplies as the <u>Non Binding</u> Supplier Commitment Letter ratified on 2011/09/01 represents a lower value than the original signed non Binding Supplier Commitment Letter signed with GAMESA on 2011/05/05).</p> <p>Furthermore all financial values were also audited and certified by Deloitte. The Financial Assessment Review Report performed by Deloitte was checked.</p>

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<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
1. TURBINES AND SUPPLIES	89.5	Mio USD	Non Binding Supplier Commitment Letter by GAMESA (page 1)	/FD-1/	<input checked="" type="checkbox"/>	<p>A Non Binding Supplier Commitment Letter was signed with GAMESA on 2011/05/05 regarding the commitment to provide 25 wind turbines type Gamesa G8X 2MW. Furthermore the PP ratified the <u>Non Binding</u> Supplier Commitment Letter between GAMESA and Inversiones Eolicas de Orosi Dos, S.A. on 2011/09/01 due to new negotiation were done between parts. This is the value used in the investment analysis calculation. The Non Binding Turnkey Engineer, Procurement and Construction Commitment Agreement was checked.</p> <p>Moreover the value applied in the financial calculation regarding turbines and supplies also match with an offer performed by GAMESA on 2012/01/18. Therefore the value applied is considered plausible and traceable by different sources.</p> <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.</p>
			Non Binding Turnkey Engineer, Procurement and Construction Commitment Agreement (page 5)	/FD-2/		
			Offer for WTG Num. 20200166 by GAMESA (page 3)	/FD-26/		
2. MISCELLANEOUS	0.173	Mio USD	PP assumption		<input checked="" type="checkbox"/>	Miscellaneous are considered by the PP for items not included in the Gamesa Quotation. This is based on own experience because

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			Non Binding Turnkey Engineer, Procurement and Construction Agreement (page 9)	/FD-2/		<p>there is an expectation that the initial EPC offer would often not cover 100% of the requirements of the developer and the final contracts will include these additional incremental elements.</p> <p>The Turnkey Engineer, Procurement and Construction Agreement does not include several items described such as training program provided by GAMESA Faculty, new software development (Turbines, SCADA, Regulation tools, etc) and grid code orders management. Therefore the PP has estimates such value based on own experience. The validation team checked the turnkey Agreement.</p> <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.</p>
3. LAND RIGHTS	3.295	Mio USD	Land leasing contract (page 5) and contract with option to purchase (page 3)	/FD-4/	<input checked="" type="checkbox"/>	Land leasing contracts were signed between land owners and Costa Rica Energy Holding (subsidiary of Globeleq Mesoamerica Energy). Furthermore the PP has also signed contracts with option to purchase land. Contracts were checked. No discrepancies were identified between figures included in the financial analysis and

<input type="checkbox"/> No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/> Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>figures stated in the signed contracts.</p> <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.</p>
4. DEVELOPMENT COSTS	7.267	Mio USD	<p>Consolidated Financial Statements for years 2008 and 2009 audited and certified by KPMG (page 18)</p> <p>Financial Statements for year 2010 audited and certified by Ernest & Young, 2011/02/25 (page 4)</p> <p>Preliminary financial statements for year</p>	<p>/FD-5/</p> <p>/FD-6/</p>	<input checked="" type="checkbox"/>	<p>Development costs before and during construction consider all basic studies performed, travel arrangements, initial negotiation of lands, local staff, legal expenses, local office expenses, supplies, financial and tax advice etc.</p> <p>This is a PP assumption considering development costs of Cerro de Hula Wind park. Consolidated financial statements for years 2008 and 2009 audited and certified by KPMG, financial statements for year 2010 audited and certified by Ernest and Young and preliminary financial statements for year 2011 were checked. Development costs for Cerro de Hula are higher (36%) than estimation of the project activity which is considered as conservative assumption. Actually for the project activity more studies were developed as requested by the ICE.</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			2011	/FD-7/		<p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.</p>
5. BUILDING	0.5	Mio USD	Design and construction service agreement (Annex B, page 31)	/FD-3/	<input checked="" type="checkbox"/>	<p>Building is taken from a Design and construction service agreement^{/FD-3/} already signed for the Cerro de Hula Project.</p> <p>Cerro de Hula Project is a wind project of 100 MW located in Honduras and developed by a subsidiary of Globeleq Mesoamerica Energy who is the owner of the project activity. The org-chart^{/ORG/} of the company was checked.</p> <p>According to the PP costs of building cannot be escalated according to the size of the project because the same characteristics of a building built for a project with higher capacity as Cerro de Hula Project will be need for a project with less capacity. This is taking into consideration that the turbines are the same size; the same equipment is needed for O&M and the warehouse used for mayor component (e.x. generator, gearbox,</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>transformer, etc.) would be almost the same. The validation team considers that the assumption is plausible and due to previous experience developing wind projects the PP will use such expertise to develop the financial analysis.</p> <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.</p>
6. INSURANCE	0.62	Mio USD	E-mail from Meyers-Reynolds	/FD-13/	<input checked="" type="checkbox"/>	<p>According to an e-mail from Meyers-Reynolds which is a insurance and risk management specialist attaching a spread sheet with the insurance premium quotation. The value applied corresponds to the evidence provided.</p> <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Comment	
						turbines and supplies data are available and valid at the time of investment decision.	
7. CONTINGENCIES	5.319	Mio USD	PP assumption		<input checked="" type="checkbox"/>	<p>This is a PP assumption considering 5% of EPC costs and non EPC costs. This is based on professional experience by the PP and is also consistent with industry standard practice and with other projects developed by the PP.</p> <p>GLOBELEQ is the main shareholder of PP (Globeleq Mesoamerica) who has implemented several wind parks all over the world and hence possesses technical and market expertise in wind technology. According to representatives of PP, the assumption of contingencies was based on such expertise.</p> <p>Hence the validation team concludes that the PP assumption is conservative and appropriate.</p> <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.</p>	

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<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
8. TAXES	1.696	Mio USD	Letter Ref. 112-11 regarding “Applicable taxes wind energy project” by Afc Tax and Accounting Advisory (page 9)	/FD-8/	<input checked="" type="checkbox"/>	Taxes applicable to <ul style="list-style-type: none">Import duties and taxes: 0.912 Mio USD: This tax is applicable to equipments which are imported into Costa Rica. The tax rate is 1.25% which is based on XXXXX. As a conservative assumption the PP has assume that 80% of foundations and buildings, 50% of electrical infrastructure and 50% of transmission line and substation are not imported.Sales tax on EPC: 0.6 Mio USD: this tax is applicable to individual or entities of any nature who imports goods into Costa Rica applying a rate^{/LAW-6/} to 13%. The calculation was based on guidelines stated in Letter^{/FD-8/} Ref. 112-11 (page 9) regarding “Applicable taxes wind energy project” performed by a Tax and Accounting Advisory firm. As a conservative assumption the PP has assume that 95% of the imported goods will be able to obtain a tax exemption.Withholding tax on foreign services: 0.184 Mio USD: this tax generated when the income or benefit from a Costa Rican source is paid, credited or made available to non domiciled individuals. The rate^{/LAW-5/} of 15% was applied to the lender costs, professional services and environmental studies. The calculation was based on guidelines stated in
			Sale Tax Law No. 6826 (chapter III, Article 10)	/LAW-6/		
			Income Tax Law No. 7092 (chapter X, article 26)	/LAW-5/		

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>Letter^{/FD-8/} Ref. 112-11 (page 9) regarding “Applicable taxes wind energy project” performed by a Tax and Accounting Advisory firm. As a conservative assumption the PP has applied only a rate of 4% of withholding tax on foreign services.</p> <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.</p>
9. INTEREST, FEES AND COMMISSIONS DURING CONSTRUCTION	8.947	Mio USD	<p>Calculation spread sheet of interest and fees and commissions during construction (tab “IDC + fees”)</p> <p>Calculation spread sheet of the lender costs for the Cerro de Hula wind project</p>	<p>/FD-18/</p> <p>/FD-19/</p>	<input checked="" type="checkbox"/>	<p>Based on the expected payment dates of EPC and other costs, the monthly total funding requirement is calculated. Of this total, 25% is provided by means of equity and 75% by debt. Of this debt, 41.18% is expected to be provided by CABEL and 58.82% by EXIM.</p> <p>Interest, fees and commissions during construction considers the following items:</p> <ul style="list-style-type: none"> Interest during construction: 5.698 Mio USD: this is based

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>on letters provided by potential lenders. The PP assumption is to obtain two loans. The first one considers an ALL-IN interest rate of 5.2% (only applicable during construction) with United States Export-Import Bank and the second one considers ALL-IN interest rate of 9.05% with Central American Bank for Economic Integration.</p> <p>The monthly debt drawdowns result in increasing amounts of debt outstanding. Each month the outstanding loan amount at the beginning of the month is multiplied by the monthly interest rate to obtain the interest expense of that month. The sum of all the monthly interest payments is the total IDC and is included in the total investment amount*.</p> <ul style="list-style-type: none">Fees and commissions during construction: 3.249 Mio USD this is a calculation The PP has performed a benchmark with Cerro de Hula project assuming the same costs the expenditures are till this moment for Cerro de hula 2.512. Invoices of lender costs of Cerro de hula were checked, The amount expended is 2.463. The PP has assumed 2.596 <p>Two types of fees are included: up-front fees and commitment fees. Up-front fees (also known as front-end fees) are calculated as a percentage of the total loan amount. Commitment fees are a bit more complicated</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>They are paid for the undrawn amount of the loan, i.e. the amount that the bank has committed but that the project has not yet used. This is calculated as the total loan amount minus the outstanding loan. The yearly commitment fee is divided by 12 to make it monthly and multiplied by the unused loan amount at the beginning of the month to obtain the monthly commitment fee payable. The sum of the monthly fees is the total commitment fee and is included in the total investment amount*.</p> <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.</p>
10. PREFUNDED DEBT SERVICE AND MAINTENANCE RESERVE ACCOUNTS	7.005	Mio USD	Master Security and Accounts Agreement (page 6 & 7)	/FD-12/	<input checked="" type="checkbox"/>	<p>Prefunded debt service and maintenance reserve accounts considers the following items:</p> <ul style="list-style-type: none"> Prefunded debt service reserve account: 5.407 Mio USD: this is based on 6 months of debt service (interest payments and debt repayment) taking into consideration

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<input type="checkbox"/> No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/> Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>own experience based on Cerro de Hula wind Park for which the lenders demanded a 9 months debt service reserve account. Therefore consideration for the project activity is considered as conservative. The value was crosschecked against the Master Security and Accounts Agreement performed for Cerro de Hula project. No discrepancies were identified.</p> <ul style="list-style-type: none"> Prefunded maintenance reserve account: 1.598 Mio USD: this is based on the expected O&M costs for the first 6 months of operation. Taking into consideration own experience based on Cerro de Hula wind Park for which the lenders demanded a 6 months maintenance reserve account. The PP has assumed the same maintenance reserve account as Cerro de Hula. The value was crosschecked against the Master Security and Accounts Agreement performed for Cerro de Hula project. No discrepancies were identified. <p>Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that input data is conservative. Please refer to Assessment of Total Investment above.</p> <p>Concluding all documents presented by the PP to demonstrate the</p>

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<input type="checkbox"/> No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/> Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						turbines and supplies data are available and valid at the time of investment decision.
11. LENDER AND OTHER FINANCIAL COSTS	3.332	Mio USD	Calculation spread sheet of the lender costs for the Cerro de Hula wind project	/FD-19/	<input checked="" type="checkbox"/>	Lender and other financial costs considers the following items: <ul style="list-style-type: none"> Lender costs: 2.596 Mio USD: based on lender costs of Cerro de Hula project. A calculation spread sheet with detail description of each lender cost was provided. Furthermore the invoices were also provided to cross checked the values. Facility cost for environmental compliance bond: 0.236 Mio USD: based on own experience by the PP. A quotation provided by the PP from International Bank of Costa Rica (BICSA) was provided as a crosscheck source. The value estimated is quite similar to the evidence provided. Working capital prefunding: 0.5 Mio USD: the PP has assumed 50% of the amount considered for Cerro de Hula project as a conservative assumption. A financial model for Cerro de Hula project was checked. Further as it is a component of total investment, the cross-check of total investment cost per MW has been carried out to ensure that
			Offer from BICSA (page 2)	/FD-20/		
			Financial model for Cerro de Hula Project	/FD-9/		

<input type="checkbox"/> No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/> Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						input data is conservative. Please refer to Assessment of Total Investment above. Concluding all documents presented by the PP to demonstrate the turbines and supplies data are available and valid at the time of investment decision.
C) ENERGY PRICE	121.90	USD/M Wh	Letter by IEDO No. ORO2-20110906-001 to ICE dated on 2011/09/09 Public Tender No. 2010LI-000020-PROV by ICE (chapter 11, section 11.4, sub-section b, page 13) Assessment of energy Production by GL Garrad Hassan (page 21).	/FD-11/ /tender/ /PLF/	<input checked="" type="checkbox"/>	The energy price to be paid will be for a high and for a low season as follow: <ul style="list-style-type: none"> High season: 121.90 USD/MWh: according to the Letter No. ORO2-20110906-001 dated on 2011/09/09 the PP will offer the price mentioned above. The price is correctly applied in the financial analysis. As a background the PP has participated in the Public Tender No. 2010LI-000020-PROV during year 2011. During the first phase of the tender the ICE has considered the project as legally and technically viable. During the second phase which the price is assessed the energy price proposed by the PP (121.90 USD/MWh) has not been selected by ICE and therefore the tender was not awarded to Orosi wind Park. After the Public Tender No. 2010LI-000020-PROV ended, the ICE has invited the PP through a direct contract mechanism. The PP

<input type="checkbox"/>	No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Comment	
						<p>has presented its proposal through the Concession Agreement No. 2011CD-003636-PROV using the same price of energy awarded in the Public Tender No. 2010LI-000020-PROV which is 121.5 USD/MWh. As a conservative assumption the PP has used the first price offered instead of the price awarded in the Public Tender No. 2010LI-000020-PROV.</p> <ul style="list-style-type: none">Low Season: 48.76 USD/MWh: according to Public Tender No. 2010LI-000020-PROV (chapter 11, section 11.4, sub-section b, page 13) the energy price to be paid for the low season will be 40% of the high season price. the Public tender was checked. No discrepancies were identified. <p>According to the glossary (page V) of terms Public Tender No. 2010LI-000020-PROV the high season considers the months between January and May.</p> <p>The PP has calculated a monomic price taking into consideration the energy generated in high and low season (according to Garrad Hassan study). The resulting price of 84.67 USD/MWh was applied to the energy generation during the whole operational life time.</p>	

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
D) PLANT LOAD FACTOR	49.41	%	Assessment of energy Production by GL Garrad Hassan (page 21).	/PLF/	<input checked="" type="checkbox"/>	Value was evidenced in Report from third party Garrad Hassan, which is a worldwide leading company in wind yield assessment and certification. Therefore determination of PLF is considered reliable and absolutely in line with EB48 Annex 11.
E) OPERATIONAL COSTS	3.171	USD Mio/year	Calculation spread sheet of the yearly O&M	/FD-21/	<input checked="" type="checkbox"/>	For operational costs a benchmark for other wind farm Plantas Eolicas SRL – PESRL (23 MW) property of the PP was used. Data of operational costs for years 2009 and 2010 were provided.
			Audited financial statements of 2009 and 2010 Audited financial statements of 2009 and 2010 (page 22)	/FD-22/		Furthermore the audited financial statements were also provided to crosscheck the operational costs data of PESRL Wind Farm. The PP assumed as a conservative assumption a similar amount for O&M costs.
			The Economics of Wind Power (Part III, page 205-206)	/Studies-1/		The Economics publications of Wind Energy are issued by the European Wind Energy Association (EWEA). These reports are considered an appropriate source as the EWEA is the voice of the wind industry, actively promoting the utilization of wind power in Europe and worldwide. Therefore, information published by the EWEA is considered as a third party trustable data about the wind energy sector worldwide. According to the Economics publications of Wind Energy, Operational Costs are generally estimated to be around 1.2 to 1.5 euro cents (c€) per kWh of wind power produced over the total lifetime of a turbine.

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>The project activity operational costs is 1.4 euro cents (c€) per kWh of wind power produced over the total lifetime of the project activity. Hence, operational costs applied by the PP in the investment analysis are considered appropriate.</p> <p>Concluding all documents presented by the PP to demonstrate the operational costs data are available and valid at the time of investment decision.</p> <p>A CAR was raised due to some values were wrongly applied or no evidence were provided to crosscheck the value applied. Please refer to CAR B5.</p>
F) <u>INTEREST & PAYMENT</u>	9.05	%	<p>Calculation spread sheet of the interest rate calculations</p> <p>Letter No. 118/2011 from Central American Bank for Economic Integration (page 1)</p> <p>Federal Reserve of the US web site</p>	<p>/FD-23/</p> <p>/FD-15/</p> <p>/fed-res/</p>	<input checked="" type="checkbox"/>	<p>This is based on letters provided by potential lenders. The PP assumption is to obtain two loans.</p> <p>The first one considers ALL-IN interest rate of Libor 3m+5.5% with Central American Bank for Economic Integration</p> <p>The Libor 3m is a variable rate. The Libor rate of the last 10 years was provided in the calculation sheet. The PP has taken into consideration the average of the last 10 years (4.65%), the average of the last 5 years (4.01%) and the maximum rate of year 2011 (3.67%) to estimate the lender rate. The value estimated and used by the PP is 3.55 % which is a lower value. This is considered as a conservative assumption.</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						The Federal Reserve of the US web site (http://www.federalreserve.gov/releases/h15/data.htm) was checked. No discrepancies were identified.
	6.40	%	Credit Agreement Energia Eolica de Honduras S.A. (page 2) Ex-Im Bank Prior CIRR Rates extracted from the Export-Import Bank of the United States web site	/FD-25/ /FD-24/	<input checked="" type="checkbox"/>	<p>This is based on the Credit Agreement for Cerro de Hula project with Export-Import Bank of the United States which considers a rate of 7.71%. The PP has assumed a rate for the project activity of 6.40 % which considers the following assumptions:</p> <ul style="list-style-type: none"> Rate of 5.2% as a result of the average of the last 10 years of the Commercial Interest Reference Rate (CIRR) published by the Lender Bank (http://www.exim.gov/tools/cirr_prior.cfm). Rate of 1.2%. The PP assumed a lower rate than Cerro de Hula project (3.49%) as Costa Rica has a lower risk compared with Honduras and therefore a better rate would be provided by the lender bank. This is considered as a conservative assumption. <p>Comparing with the rate of Cerro de Hula project developed by the same PP, the PP has assumed a conservative rate applicable to the project activity which is considered appropriate by the validation team. Considering the regional experience of the</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						validation team the rate used by the PP is appropriate and conservative as normally higher rates are considered for this kind of projects.
G) WORKING CAPITAL	6.992	USD Mio	Financial model for Cerro de Hula Project Expenses spread sheet for Cerro de Hula Project Project Finance Structuring and Lead Arranging Letter of Interest by BICSA (page 2)	/FD-9/ /FD-10/ /FD-27/	<input checked="" type="checkbox"/>	Working capital considers two reserves for liquidity purposes which are expected to be required by the Lenders. The first reserve is for O&M (maintenance reserve account-MRA). The second reserve is for debt and amortization payments (debt service reserve account-DSRA). Determination of reserve MRA is based on the expected next 6 months O&M expenses already assessed above (item E). Furthermore required MMRA Balances has been determined based also on previous experience ^{/FD-9, FD-10/} with other wind park developed by the same PP (Cerro de Hula). A 50% of the balance for this project (100 MW) has been assumed. Determination of reserve DSRA is based on 6 months of interest and amortization that the project activity will pay during the loan period. The banks normally require 6 months of reserve which is the common practice. Evidence ^{/FD-27/} was provided and checked by the validation team to demonstrate such 6 months of reserve considered. No discrepancies were identified.

<input type="checkbox"/>	No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Comment	
						<p>Working capital calculation used in the investment analysis is the same as the offer presented to ICE.</p> <p>Initially, MRA and DSRA reserves are funded by debt and equity and this has been included by the PP in the capital expenditures of the financial analysis of the project activity. Then there are MRA additions and withdrawals, and at the point of time when the loans end, the reserves assumed are no longer required (by the Lenders) and therefore the project activity is able to distribute the cash to its shareholders.</p> <p>Including working capital is conservative as the IRR is higher. The validation team considers that inclusion of working capital is considered correct, plausible and conservative.</p>	
H) <u>DEPRECIATION</u>			International account norm (paragraph 57, page 10)	/LAW-7/	<input checked="" type="checkbox"/>	<p>Depreciation is determined based on the National Accounting Regulation which specifies at paragraph 57 that the lifetime of equipment will be determined based on its utility.</p> <p>As the project activity will be a BOT project (Build, Operate and Transfer), the PP has assume as a lifetime of the equipment the time of operation of the project.</p> <p>A BOT scheme considers that after 20 years the ownership of the plant is transferred to the ICE and no compensation is paid back to</p>	

P-No.: 8621-12/028

<input type="checkbox"/> No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/> Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>the PP (Chapter 2 section 16.8 & chapter 7 of the Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV^{/tender-2/}). The construction period is included in this period which leads approximately to 18 years to sell energy to the ICE. Therefore no fair value is considered for this project as no compensation is paid back to the PP. The Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV^{/tender-2/} were checked.</p> <p>The validation team has checked the source and crosschecked every item for which depreciation has been applied. No discrepancies were identified.</p>
I) <u>INCOME TAX</u>	30	%	<p>Income Tax No. 7092 (chapter VII, article 15-a)</p> <p>Letter Ref. 112-11 regarding "Applicable taxes wind energy project" by Afc Tax and Accounting Advisory</p>	<p>/LAW-5/</p> <p>/FD-8/</p>	<input checked="" type="checkbox"/>	<p>According to the Costa Rican Income Tax law No. 7092, the tax rate of 30% shall be applied to all companies in Costa Rica.</p> <p>The Income Tax No. 7092 has been checked and the rate of 30% income tax evidenced. The PP has correctly applied such rate.</p> <p>The applicable rate of 30% was crosschecked against letter Ref. 112-11 regarding "Applicable taxes wind energy project" by Afc Tax and Accounting Advisory. No discrepancies were identified.</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
J) <u>TECHNICAL LIFETIME</u>	20	years	Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV	/tender-3/	<input checked="" type="checkbox"/>	<p>The PP is awarded with the Concession Agreement the scheme applicable to the project activity will be a BOT project (Build, Operate and Transfer) which is the common practice in Costa Rica for private developers who aim to install a generation project up to 50 MW.</p> <p>A BOT scheme considers that after 20 years the ownership of the plant is transferred to the ICE and no compensation is paid back to the PP (Chapter 2 section 16.8 & chapter 7 of the Particular conditions of direct contract mechanism. No. 2011CD-003636-PROV^{/tender-2/}). The construction period is included in this period which leads approximately to 18 years to sell energy to the ICE.</p> <p>Therefore the period of assessment reflects the period of expected operation of the project activity. The validation team considers plausible the period of assessment based on the conditions explained before.</p>
K) <u>BENCHMARK</u>	12	%	Guidelines on the Assessment of Investment Analysis, v.05, EB 62, Annex 5	EB62 Annex 5	<input checked="" type="checkbox"/>	<p>The UNFCCC default value as per paragraph 8 of the Appendix from the Guidelines on the Assessment of Investment Analysis, v.05, EB 62 Annex 5 has been used.</p> <p>It is important to mention that according to the Guidelines on the assessment of Investment Analysis. Version 05, EB 62, Annex 5: <i>"In situations where an investment analysis is carried out in nominal terms, project participants can convert the real term in the</i></p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>table below (UNFCCC's benchmarks table) to nominal values by adding the inflation rate."</p> <p>The developer was at liberty to follow the relevant guidance and select a post-tax benchmark of 12% plus inflation (approximately 2%). Instead the PP chose to perform its analysis in real terms using a benchmark of 12% as set out by the EB in its guidance. It can be shown that this is a stricter and more conservative approach, since contractually only 20% of the energy price is subject to indexation, whereas O&M costs are expected to increase fully with inflation.</p>
L) INTERNAL RATE OF RETURN (IRR)	9.55	%	<p>Financial analysis calculation spreadsheet</p> <p>LAWEA web site</p> <p>Green Rhino Energy web site</p>	<p>/XLS/</p> <p>/lawea/</p> <p>/Rhino/</p>	<input checked="" type="checkbox"/>	<p>The project was evaluated considering 25% equity. All inputs values were checked directly from the sources and they were valid at the time of the investment decision. Each financial parameter was reviewed and validated carefully considering submitted evidences, public available sources of information and the local expertise of the validation team.</p> <p>Depreciation and other non-cash related were included in the investment analysis as taxation was considered in the financial analysis.</p> <p>As described in the PDD and clearly demonstrates in the financial spread sheet, a sensitivity analysis of the following items were</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
			Assessment of energy Production by <i>GL Garrad Hassan</i> (page 25). <i>CDMpipeline.org web site</i>	/PLF/ /cdmpipe/		<p>performed:</p> <ul style="list-style-type: none"> Revenues (price / generation) Investment cost O&M costs Interest <p>Those values constitute more than 20% of the total project costs and total project revenues respectively. The applied range of variation (+/-10%) is reasonable in the specific context of the project activity. The variation is in line with latest EB guidance^{/GAIA/}.</p> <p>No parameter constituting less than 20% of total project costs or revenues has been identified with potential material impact on the financial parameter.</p> <p>The resulting IRR applying a fluctuation of +/-10% is as follow:</p> <ul style="list-style-type: none"> Net revenues (price / generation) - (+10%): 13.68%: As stated before the energy price paid by the ICE is fixed, with only 20% subject to indexation (US producer price index) (Source: PPA). As per the PPA, changes in price would only take place in exceptional circumstances after the PP justifies that the net financial return on the investment is significantly reduced as a result of an event that temporarily or

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>permanently prevents it to comply with the Contract or forces it to incur into unexpected expenditures (PPA section 7.8.2.1). Therefore increments in tariff are very hardly to happen. Since there is almost no possibility to change the price, the only possible element that may give rise to increased revenues is an increase in the capacity factor.</p> <p>The actual capacity factor was determined by an independent and worldwide well known entity, Garrad Hassan. The PP chose to use the P50 net capacity factor of 49.41% as calculated by Garrad Hassan. However, according to the Green Rhino Energy web site^{/Rhino/} "Typically, banks will apply the P90 or P95 level for their revenue forecast in order to determine if the interest cover is sufficient. Equity investors on the other hand may use the P75 or even P50 levels."</p> <p>Energy generation considering P75 would be 206 Gwh/year and generation considering P50 would be 216 Gwh/year (almost 5% above the P75 estimate). Therefore using P50 is considered conservative, as it is clearly more aggressive in estimating the project's generation potential. It is also worth</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>considering that use of P75 estimates are common practice for wind power projects². The latter link indicates that: "The base case has been calculated assuming a Probability of Exceedance of 75% (P75). For the scenario analysis two further cases have been considered: Best Case: Probability of Exceedance of 50% (P50); Worst Case: Probability of Exceedance of 90 % (P90)". This shows that P50 values are often used by developers in estimating the "best case" (optimistic) scenario in the economic analysis of wind energy projects.</p> <p>In this context, it is also worth considering the average capacity factor of several wind power projects operating in Costa Rica applied in estimating electricity.</p>

² See e.g. http://www.greenrhinoenergy.com/finance/modelling/revenue_uncertainties.php and https://energypedia.info/index.php/Economic_analyses_of_wind_energy_projects

<input type="checkbox"/>	No financial parameters are used for additionality justification																																
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below																																
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT																												
					Correctness of value applied	Comment																											
						<table><thead><tr><th>Plant</th><th>Capacity (MW)</th><th>Effective capacity factor (average 2006-2010) as per the Baseline CR – EF 2010 v3"</th><th>Effective capacity factor including year 2011³</th></tr></thead><tbody><tr><td>MOVASA</td><td>20</td><td>36,5%</td><td>35,8%</td></tr><tr><td>Tejona (ICE)</td><td>19,8</td><td>41,2%</td><td>41,9%</td></tr><tr><td>PESA</td><td>19,8</td><td>43,9%</td><td>43,4%</td></tr><tr><td>Aeroenergía</td><td>6,4</td><td>47,8%</td><td>47,2%</td></tr><tr><td>Orosi Wind Power Project</td><td>50</td><td colspan="2">49.41%</td></tr></tbody></table> <p>The capacity factor of the Orosi project activity used by the PR is the higher capacity factor observed in Costa Rica. A permanent 10% increase in revenue would imply a capacity factor of 54.5%. It should be noted that the equilibrium capacity factor required to give a 10% increase in revenue would likely need to be even higher as increased generation would also lead to increased O&M costs. In conclusion, even under optimistic circumstances it is highly unlikely to see a permanent increase in electricity production during the plant's technical lifetime, sufficient to give rise to an increase in</p>				Plant	Capacity (MW)	Effective capacity factor (average 2006-2010) as per the Baseline CR – EF 2010 v3"	Effective capacity factor including year 2011 ³	MOVASA	20	36,5%	35,8%	Tejona (ICE)	19,8	41,2%	41,9%	PESA	19,8	43,9%	43,4%	Aeroenergía	6,4	47,8%	47,2%	Orosi Wind Power Project	50	49.41%	
Plant	Capacity (MW)	Effective capacity factor (average 2006-2010) as per the Baseline CR – EF 2010 v3"	Effective capacity factor including year 2011 ³																														
MOVASA	20	36,5%	35,8%																														
Tejona (ICE)	19,8	41,2%	41,9%																														
PESA	19,8	43,9%	43,4%																														
Aeroenergía	6,4	47,8%	47,2%																														
Orosi Wind Power Project	50	49.41%																															

³ Source: Excel file "GEN_PRIVADA 2011". Available at: ARESEP statistics^{/EF/}.

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>revenue such that the benchmark applied will be breached.</p> <p>Moreover according to the cdmpipeline web site checked on 2012/10/05 the issuance success (the CERs issued divided by the CERs expected for the same period of time) is about 84%. This information provides a clear signal that CER's estimates and by implication wind generation stated in registered PDD's are generally over estimated by around 16% in all registered CDM wind projects. CER's generation is directly correlated with initial energy generation estimates.</p> <p>Furthermore the validation team has successfully verified several wind projects in Mexico, Nicaragua and Chile. In none of the wind projects verified has the energy generation been above the estimate stated in the PDD's. For example it was assessed that in Nicaragua Amayo Phase II (CDM ref. #5305)⁴ real information of energy production from the facility in year 2010 showed that the effective capacity factor presented in this period was of 24.7% (INE) significantly smaller than the 48.97% plant factor estimated by V-BAR in the PDD⁵. This shows that the revenue in 2010 has been less</p>

⁴ This project is relevant due to their proximity (some 90 km from Quebrada Grande, Guanacaste, where the Orosí project is located) and the fact that it is the most recent wind project in the region with performance data already available.

⁵ <http://cdm.unfccc.int/filestorage/5/B/T/5BT64MLAGYJVN1X7SID9K0FROZU3QH/5305%20PDD.pdf?t=SG18bWJmeXZofDBY9qCVXIPPKWDyUPcbWZAu>

<input type="checkbox"/> No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/> Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>than expected. Based on these evidences, it seems unlikely that a permanent, +10% increase in generation will take place.</p> <p>Finally, the prospects for the project to consistently outperform by 10% are limited given the choice of a P50 value as opposed to P75. A choice of a P75 value would see a reduction in the equilibrium IRR for the project. The practice of using P75 estimates in the region is supported by available data on actual wind farm performance both on a global and a regional level.</p> <ul style="list-style-type: none"> Investment cost (-10%): 13.94%: A decrease in the investment costs is not likely to happen. Evidence^{/lawea/} provided by the PP demonstrate that a wind park recently installed in the host country increased its total investment amount in 32% due to the prices of raw materials such as steel, copper and concrete has been increased. Furthermore EPC costs represent 89.7 Mio USD out of 127.7 Mio USD of the project's overall costs. As an agreement with GAMESA has been signed it is DOE understanding that the price will remain and therefore it is very unlikely to happen a reduction in 10% on the agreed turbine cost. O&M costs (-10%): 10.29% Interest (-10%): 10.76%

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
						<p>When a parameter goes beyond the benchmark the PP has provided detailed explanation in the PDD of the probabilities of occurrence which were assessed by the verification team and found them correct.</p> <p><u>Therefore the project activity is considered as additional.</u></p>

ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis (EB 55 Annex 1, §118)

<input checked="" type="checkbox"/>		No barrier parameters are used for additionality justification		
<input type="checkbox"/>		Assessment of barriers see below		
Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	

ANNEX 5: OUTCOME OF THE GSCP

Table A-5: Outcome of the Global Stakeholder Consultation Process
(§§ 40-42, VVM Version 1.2)

<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period					
<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:					
Comment No.:	Comment by:	Inserted on:	Subject	Comment ^{*)}	Action taken by the validation team to take due account on the comment ^{*)}	Conclusion (incl. CARs CLs or FARs)

^{*)} In case clarifications have been requested by the validation team corresponding rows shall be added

ANNEX 6: STATEMENTS OF COMPETENCE OF ALL INVOLVED PERSONNEL



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Mr. Raul Gonzalez Mitre


SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2014-06-27
VCS	Lead Assessor	2014-06-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	

082 – Rev. 2, Date: 2011-09-27

082_S01-F003_2011-09-27_rev2
S01-F003 rev1 / 2011-09-02



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Mr. Abraham Garza Alvarez

SCHEME	STATUS	VALID UNTIL
CDM	Assessor (Validation, Verification)	2015-03-01
VCS	Assessor	2015-03-01

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies
3.1	Energy Demand
4.1	Cement Sector
13.1	Waste Handling and Disposal

235 – Rev. 3, Date: 2012-03-02

235_S01-F003_2012-03-02_rev3.doc
S01-F003 rev1 / 2011-09-02



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Mr. Emilio Martin

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2013-11-30
VCS	Lead Assessor Technical Reviewer	2013-11-30

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management

157 – Rev. 2, Date: 2011-08-10

157_S01-F003_2011-08-10_rev2

S01-F003 rev1 / 2011-08-02



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JI/CDM Certification Program

Ms. Alexandra Nebel

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2014-08-24
Ji	Senior Assessor Technical Reviewer	2014-08-24
VCS	Senior Assessor Technical Reviewer	2014-08-24

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
14.1	Forestry

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