Validation Report

Report for:

Enerfin do Brasil - Sociedade de Energia LTDA.

and

Parques Eólicos Palmares S.A.

Validation of CDM project for

Palmares Wind Power Plant Project

LRQA Reference	:	CCNOV100103_PALMA_C Report Version 3
Date	:	10th October 2011
Work carried out by	:	Cláudia Freitas Iuri de Araújo Barroso Talita Beck Márcio Pragana
Work verified by	:	Stephen Ross Karuna Moorthy Andrew Ritchie

LRQA
Measure the Difference

Contents

1 Executive Summary

Lloyd's Register Quality Assurance Limited has been contracted by Parques Eólicos Palmares S.A. representing the project participants (PP), to undertake validation of the proposed project activity Palmares Wind Power Plant Project (PWPPP).

The validation has been performed through a process of document review based on the project design document, Version 1 dated 7th March 2011 initially submitted for validation and the subsequent revisions, follow-up interviews with the stakeholders, resolution of outstanding issues and issuance of the validation report.

Palmares Wind Power Plant Project (PWPPP) is a greenfield project located in the municipality of Palmares do Sul, state of Rio Grande do Sul, Brazil. The proposed project activity consists of the implementation and operation of 21 ENERCON 2 MW wind turbines, for a total installed capacity of 42 MW, sub-divided into the following 3 wind farms: Fazenda Rosário (8MW), Fazenda Rosário 2 (20 MW) and Fazenda Rosário 3 (14MW).
The baseline scenario is electricity generation by the operation of grid-connected power plants and by the addition of new generation sources. Hence, the project activity will promote GHG emission reductions by displacing fossil fuel-based electricity generation that would otherwise occur.

The fulfilment of the requirements as set forth in Article 12 of the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC), the modalities and procedures for a CDM (CDM M&P) and relevant decisions of the Conference of the Parties, serving as meeting of the Parties to the Kyoto Protocol (COP/MOP) and the Executive Board of the CDM (CDM-EB) have been evaluated and conformance to the validation requirements were confirmed based on the given information. A risk based approach was taken to conduct the validation and corrective action requests (CARs) and clarifications (CLs) were raised for relevant actions by the PP.

The validation team has found through the validation process 4 CARs and 11 CLs. The PP has taken actions and submitted to LRQA all necessary additional explanations, evidence and document revisions.
The validation team is of the opinion that the proposed project activity as described in the project design document version 3 dated 7th September 2011 meets all the relevant UNFCCC requirements for the CDM, as well as the host country's national requirements and, if implemented as designed, is likely to achieve the emission reductions and contribute to the sustainable development of the host country. LRQA therefore requests the registration of Palmares Wind Power Plant Project to the CDM Executive Board as a CDM project activity.

Abbreviations

ANEEL	Brazilian Electric Energy National Agency
BE	Baseline emissions
CARs	Corrective action requests
CAPEX	Capital Expenditure
CCEE	Brazilian Electric Energy Clearing Chamber
CDM	Clean development mechanism
CDM-EB	Executive board of clean development mechanism
CDM M&P	Modalities and procedures for a clean development mechanism
CDM VVM	CDM Validation and Verification Manual
CER	Certified emission reductions
CIMGC	Brazilian Interministerial Commission on Global Climate Change
CLs	Clarification requests
COP/MOP	Conference of the Parties serving as meeting of the Parties to the Kyoto Protocol
CSLL	Social contribution on net profit
DNA	Designated national authority
DOE	Designated operational entity
EF	Emission factor
EIA	Environmental impacts assessment
EPC	Engineering, procurement and construction
ERPA	Emissions reduction purchase agreement
FAR	Forward action requests
GHG	Greenhouse gas
GSP	Global stakeholders' consultation process
ICG	Shared transmission system that connects a plant with the National Interconnected Electric Energy Generation and Transmission System (SIN)
IPCA	National index of prices perceived by consumers (inflation index)
IPCC	Intergovernmental panel on climate change
IRR	Internal rate of return
KP	Kyoto Protocol of the United Nations Framework Convention on Climate Change
kW / kWh	Kilowatt / Kilowatt hour
LE	Leakage emissions
LoA	Letter of approval
LR	Lloyd's Register
LRQA	Lloyd's Register Quality Assurance Limited
MW / MWh	Mega watt / Mega watt hour
NCV	Net calorific value
NGO	Non governmental organization
ODA	Official development aid
O&M	Operation and Maintenance costs
PDD	Project design document
PE	Project emissions

PIS/COFINS	Social contribution tax, payable by legal entities, in order to finance the payment of unemployment insurance and allowance for workers
PP	Project participant
PROINFA	Brazilian Incentive Program for Electricity Generated from Renewable Sources).
SIN	National Interconnected Electric Energy Generation and Transmission System
tCO_2e	Tonnes of carbon dioxide equivalent
TUST	Tariff paid for the use of the electric energy transmission system
UNFCCC	United Nations Framework Convention on Climate Change
WEC	Wind energy converter

Lloyd's Register Quality Assurance Ltd
Hiramford
Middlemarch Office VillageSiskin Drive
Coventry CV3 4FJ
United Kingdom

Registered office:
Lloyd's Register
71 Fenchurch Street
London EC3M 4BS
United Kingdom

2 Introduction

The project participant (PP) represented by Parques Eólicos Palmares S.A. has contracted with Lloyd's Register Quality Assurance Limited (LRQA) to undertake validation of the proposed project activity Palmares Wind Power Plant Project. This report summarises the findings of the validation process that has been conducted on the validation requirements of the CDM.

The validation has been undertaken by the team formed of the qualified personnel of LRQA as follows:

Cláudia Freitas	LRQA Brasil	Team leader / GHG Lead Validator / CDM program expert (until 20th July 2011)
Iuri de A. Barroso	LRQA Brasil	Team member / GHG Lead Validator under training. Team Leader / GHG Lead Validator (from 20th July 2011)
Talita Beck	LRQA Brasil	Host Country Expert
Márcio Pragana	LRQA Brasil	Sector Expert
Stephen Ross	LRQA UK	Technical reviewer
Karuna Moorthy	LRQA India	Sector Expert for Technical Review
Andrew Ritchie	LRQA UK	Decision maker

Personnel being engaged in a CDM project validation are qualified based on the established procedures of LRQA to assure the resource requirements satisfy all the requirements of competence criteria for an AE/DOE under CDM (CDM-Accreditation Standard version 03). LRQA is designated as an operational entity and holds the full responsibility of decision-making regarding the validation, in accordance with the accreditation requirements of the CDM-EB. The certificate of appointment of the team personnel is attached to this report.

2.1 Objective

Validation is the process of an independent third party evaluation of a project activity on the basis of the PDD, against the requirements of the CDM as set out in Article 12 of the Kyoto Protocol, the CDM M&P, the present annex, subsequent decisions made by the COP/MOP and CDM-EB, and other rules applicable to the proposed project activity including the host country's legislation and its specific requirements for sustainable development. The validation follows the requirements of the current version of the CDM validation and verification manual (CDM VVM) to ensure the quality and consistency of the validation work and the report.

2.2 Scope

The scope of validation is an independent and objective review of the project design. Review of the PDD is conducted against the requirements of the Kyoto Protocol, the CDM M&P and relevant decisions of the COP/MOP and the CDM-EB. LRQA follows a risk-based approach in the validation focusing on the identification of significant risks for project implementation and generation of CERs. Validation is not meant to provide any consulting towards the PP, however, the corrective actions requests (CARs) and clarifications (CLs) might provide input for improvement of the project design. A validation conclusion shall become final subject to the decision maker's review by LRQA Ltd.

2.3 GHG Project Description

The Palmares Wind Power Plant Project (PWPPP) is a greenfield project which comprises three wind farms located in the municipality of Palmares do Sul, state of Rio Grande do Sul, Brazil.
The proposed project activity consists of the implementation and operation of 21 ENERCON 2 MW wind turbines, for a total installed capacity of 42 MW, sub-divided into the following 3 wind farms as follows:

Facility	Number of Wind turbines	Installed capacity (MW)	Estimated load factor (%)	Net electricity generation (P50)[1] (MWh/year)
Fazenda Rosário	4	8	41.2	28,901
Fazenda Rosário 2	10	20	40.3	70,532
Fazenda Rosário 3	7	14	39.8	48,757

In the baseline, electricity delivered to the grid by the project activity would have been generated by the operation of grid-connected power plants and by the addition of new generation sources. Hence, the project activity will promote

[1] 50% surplus probability

GHG emission reductions by displacing fossil fuel-based electricity generation that would otherwise occur.

The Starting Date of the project activity, 14th December 2009, is the date of realisation of the Brazilian 2nd Reserve Power Auction (2º Leilão de Energia de Reserva - Leilão Nº 003/2009 - LER-20092), in which the facilities had its energy contracted. This auction legally binds the PP to supply the agreed amount of energy.

The amount of GHG emission reductions from the project is estimated to be 200,049 tCO_2e during the first renewable 7-year crediting period, from 1st April 2011 to 31st March 2018.

3 Methodology

3.1 Review of documents

The validation is performed primarily based on the review of the project design document (PDD) and the other supporting documentation.

The PDD Version 1 dated 7th March 2011 was initially reviewed. LRQA requested the PP to present supporting information and documents relating to the project design and such additional information and documents were also reviewed by LRQA.

Through the process of the validation, the PDD and the supporting documents of the same were evaluated to confirm the actions taken by the PP to the CARs and CLs issued by LRQA. The documents reviewed by LRQA are listed in Appendix B. LRQA reviewed the final version of the PDD version 3 dated 7th September 2011 to confirm that all changes agreed had been incorporated.

3.2 Site Visit & Follow-up interviews

A site visit and follow-up interviews with the stakeholders were conducted as detailed in the schedule below:

Date:	28 June 2011	**Time:**	8:30 AM – 4:30 PM
Location:	Palmares plant		
LRQA Team:	Claudia Freitas / Iuri Barroso / Márcio Pragana (expert)		
Purpose:	CDM Validation – wind power project		
Agenda Items:	Open meeting 1. Introduction of the validation and confirmation of the visit objectives and scope 2. Presentation from the PP of the project overview 3. Visit to the construction site. Evaluation of the project with respect to its description in the PDD, including the verification		

	of the absence of other processes affected by the project. 4. Commissioning reports and contracts validation 5. Project boundaries and co-ordinates 6. Technology used in the project 7. Demonstration of additionality, baseline and financial analysis 8. CER calculations 9. Environmental issues - Environmental permits and studies - Sustainable development 10. Stakeholders process - DNA Letters of invitation and approval - comments received during public comments and from local stakeholders and how they were addressed 11. Authority and responsibility of project management - training of involved personnel - record keeping - internal CDM audits - emergency preparedness 12. Monitoring plan and QA/QC procedures 13. Modalities of communication Close meeting

A full list of persons interviewed is shown in Appendix C.

For details of all the findings of the desk review and site visit, please refer to the Validation Protocol and Findings in Appendix F.

3.3 Resolution of clarification and corrective action requests

LRQA applies the risk based approach aimed at focusing on high risk issues to the validation results whilst not omitting any part of the mandatory processes.

Findings identified in the process are indicated under the titles corrective action requests (CARs) and clarification requests (CLs) and forward action requests (FARs). CARs and CLs require the PP to take relevant actions. Criteria for judging items as CAR or CL are as follows:

Corrective action request (CAR):

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

Clarification request (CL):

Information is insufficient or not sufficiently clear to determine whether the applicable CDM requirements have been met.

FARs are to be raised to highlight issues related to project implementation that require review during the first verification of the project activity. FARs do not relate to CDM requirements for registration.

CARs and CLs are to be resolved or closed out if the PP modifies the project design, rectifies the PDD or provides adequate additional explanations or evidence that satisfies the concerns. If this is not completed, the project activity cannot be recommended for registration to the CDM Executive Board.

For details of the nature of the issues raised, the nature of the responses provided, the means of validation of such responses and the resulting changes in the PDD or supporting annexes please refer to the Findings, at the end of the Validation Protocol in appendix F.

3.4 Internal quality control

A technical review by a qualified person independent from the validation team and a review by an authorised decision maker were conducted prior to the submission of the validation report to the PP and prior to requesting the registration of the project activity.

4 Validation protocol and conclusions

This section provides an overview of the validation activities undertaken by LRQA in order to arrive at the final validation conclusions and opinion. It includes general conclusions based on the Clean Development Mechanism Validation and Verification Manual version 01.2. Further details in relation to each element of the protocol and each finding are shown in the Validation Protocol and Findings – Appendix F.

The protocol is structured based on the main validation requirements as follows:

- Approval by the Parties involved
- Participation requirements
- Project design document
- Project description
- Baseline and monitoring methodology
  - Applicability of the selected methodology
  - Project boundary
  - Baseline identification
  - Algorithms and/or formula used to determine emission reductions
- Additionality of a project activity
  - Prior consideration of the CDM
  - Identification of alternatives
  - Investment analysis
  - Barrier analysis
  - Common practice analysis
- Monitoring plan
- Local stakeholder consultation
- Environmental impacts.

4.1 Approval

A CDM project shall be approved by the Parties involved.

To be completed after presentation of the LoA, at the final stage of validation. According to the Brazilian DNA´s rules, the issuance of the Letter of Approval is conditional to the presentation of the DOE´s validation report by PP to the DNA (Resolution No. 1 of September 11, 2003).

The host Party of the proposed project is Brazil.

Brazil ratified the Kyoto Protocol on 23rd August 2002. The Designated National Authority (DNA) is the Interministerial Commission Global Climate Change (CIMGC).

The project has currently been proposed as a unilateral CDM project and the Annex I Party has not yet been identified. In line with the provision of paragraph 57 of the 18th meeting of the CDM-EB, registration of a project activity can take place without an Annex I party being involved at the stage of registration.

This Validation Report will be updated to reflect the receipt of the LoA and any requirements specified therein.
For details relating to this section, please refer to the Validation Protocol in Appendix F section 1.

4.2 Participation requirements

The project participants, Enerfin do Brasil - Sociedade de Energia LTDA and Parques Eólicos Palmares S.A., are private entities having their registered offices in Brazil.

The contact details of the PPs are correctly provided in Annex 1 of the PDD.

Participation of the PPs in the project activity has yet to be authorised and confirmed in the LoA issued by the DNA of the Parties concerned. The team has yet to confirm that no entities other than the authorised entities are indicated as project participants in the PDD.

For details relating to this section, please refer to the Validation Protocol in Appendix F

4.3 Project design document

The PDD was checked and confirmed as complete against the Guidelines for completing the project design document (CDM-PDD) and the proposed new baseline and monitoring methodologies (CDM-NM) referring to the latest version applicable to the validation.
A valid form of the CDM-PDD (version 03) is used, being the current form as available on the CDM website.

For details relating to this section, please refer to the Validation Protocol in Appendix F section 3.

4.4 Project description

The Palmares Wind Power Plant Project (PWPPP) is a greenfield project located in the municipality of Palmares do Sul, state of Rio Grande do Sul, Brazil.
The proposed project activity consists of the implementation and operation of 21 ENERCON 2 MW wind turbines, for a total installed capacity of 42 MW, sub-

divided into the following 3 wind farms: Fazenda Rosário (8MW), Fazenda Rosário 2 (20 MW) and Fazenda Rosário 3 (14MW).
The project will reduce GHG emissions by displacing fossil fuel-based electricity generation that would otherwise come from the operation of grid-connected power plants and by the addition of new generation sources.

LRQA confirms that the project description included in the PDD is accurate and complete. This description provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.
The project description was validated by document review including Wind Certification reports, lease of land contracts, EPC (engineering, procurement and construction) contracts, interviews with personnel involved in the project and the on-site visit.

Sustainable development
The host Party's DNA has yet to confirm the contribution of the project activity to the sustainable development of the host Party.

For details relating to this section, please refer to the Validation Protocol in Appendix F section 1.

4.5 Baseline and monitoring methodology

Applicability of the selected methodology to the project activity
The project activity applied the approved baseline and monitoring methodology ACM0002, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 12.1.0.
LRQA confirms unambiguously that the selected methodology is applicable to this project activity. The project applicability was confirmed against each condition in the approved methodology selected. Appendix F includes the list of each applicability condition, the steps taken to validate each one and the conclusions about its applicability to the proposed project activity. For details relating to this section, please refer to the Validation Protocol in Appendix F section 5.

Project boundary
The project boundary has been validated through documentation review on environmental permits, interviews and field survey, which confirmed that the project is a greenfield plant and, as result, there are no processes or equipment affected by the project activity.
Emissions were identified, during the site visit, which were released by power plant construction, transportation of employees and supporting facilities (e.g. restaurant). Emissions related to the power plant construction, transportation of employees and supporting facilities (e.g. restaurant) were identified and ignored, according to the approved methodology ACM0002 version 12.1.0. No significant emission sources were identified that will be affected by the project activity and are not addressed by the selected approved methodology.
Through the processes taken, the validation team confirmed that the identified project boundary, the selected sources and the gases were justified for the project activity and that they meet the requirements of the approved methodology.

Baseline identification

The baseline scenario identified in the PDD has been assessed against the requirements in the approved methodology ACM0002, version 12.1.0, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources".

LRQA can confirm that the procedure included in this methodology to identify the most reasonable baseline scenario has been correctly applied.

The steps taken to assess the baseline identification are described in the Validation protocol in Appendix F section 5b.

LRQA confirms that:

- All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
- Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
- The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

Algorithms and/or formula used to determine emission reductions

LRQA has confirmed that the steps taken and the equations applied to calculate project emissions, baseline emissions and emission reductions comply with the requirements of the approved methodology ACM0002 version 12.1.0.

The steps taken to assess the algorithms and/or formulae used to determine emission reductions are described in the Validation protocol in Appendix F section 5.c.

LRQA confirms that:

- All assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
- All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- The baseline methodology has been correctly applied to calculate project emissions, baseline emissions, leakage and emission reductions;
- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

4.6 Additionality of a project activity

The project additionality was demonstrated by the PP using the "Tool for the demonstration and assessment of additionality", version 5.2.

Prior consideration of CDM

The prior consideration of the benefits of the CDM in the decision to undertake the project activity was assessed by the validation team, following the Guidance on the Demonstration and Assessment of Prior Consideration of the CDM EB41 Annex 46.

The adoption of the realisation of Brazilian 2nd Reserve Power Auction as the project starting date (14th December 2009), as stated in PDD section C.1.1, was assessed and considered reasonable. Evidence for prior consideration of CDM has been validated as the prior consideration form sent to the Host Party DNA on 9th June 2010 and to the UNFCCC Secretariat on 8th June 2010 (http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html).

The validation team is of the opinion that the proposed project activity complies with the requirements of the latest version of the Guidelines on the demonstration and assessment of prior consideration of the CDM.

The steps taken to assess the prior serious consideration of the CDM are described in the Validation protocol in Appendix F section 6a.

Identification of alternatives

The list in the Validation Protocol – Appendix F section 6b, shows the alternatives given in the PDD, and clearly states how LRQA has validated whether these alternatives are credible and complete.

It is the opinion of LRQA that the list of alternatives provided in the PDD are credible and complete considering the technology and circumstances of the proposed Project activity as well as the investor business.

Investment analysis

The Investment analysis option has been used to demonstrate the additionality of the proposed project activity. LRQA confirms that the PDD provides evidence that this project activity would not be the most economically or financially attractive alternative.

The PPs have shown that the project activity is additional by demonstrating that the financial returns of the proposed project activity would be insufficient to justify the required investment (equity IRR *versus* Benchmark).

For assessing the additionality of this project activity LRQA has complied with the latest version of the "Guidance on the Assessment of Investment Analysis" as provided by the CDM Executive Board and with other relevant guidance including the latest guidelines on plant load factors "Guidelines for the Reporting and Validation of Plant Load Factors". For details about the validation of the parameters used in the financial calculations and assessment of the benchmark applied, please refer to the Validation protocol in Appendix F section 6c.

LRQA confirms that the underlying assumptions for the investment analysis are appropriate and that the financial calculations are correct.

Common practice analysis

LRQA confirms that the proposed CDM project activity is not widely observed and commonly carried out in Brazil.

The common practice analysis presented in the PDD comprises all the fifty-one

wind farms operating in the host country at the project´s starting date. Seven of them, which do not receive governmental incentives (PROINFA) and are not CDM projects, were considered similar to the proposed project activity. Reasonable arguments were presented in the PDD for considering only these seven activities as similar to the proposed project activity, as well as for affirming that there are essential distinctions between these activities and the proposed CDM project.

For details about the validation of the geographical scope, the assessment of the existence of similar projects and also the assessment of the essential distinctions between the proposed project activity and any similar projects, please refer to the Validation protocol in Appendix F section 6e.

4.7 Monitoring Plan

The PDD includes a Monitoring Plan based on the approved consolidated methodology ACM0002, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 12.1.0.
LRQA confirms that the Monitoring Plan described in the PDD complies with the requirements in the Monitoring Methodology and that the PPs will be able to apply this Monitoring Plan following the monitoring arrangements described in it.

For details about the validation of the Monitoring Plan, please refer to the Validation protocol in Appendix F section 7.

4.8 Local stakeholder consultation

The PPs invited Local Stakeholders to comment on the proposed project activity on the 24th March 2011 prior to the publication of the PDD on the UNFCCC website. Copies of invitations for comments posted by the PP to the local stakeholders, as well as the corresponding acknowledgments of receipt, were assessed and found in accordance with the Brazilian DNA´s resolution No. 7 of 5th March 2008.

LRQA confirms that the stakeholder consultation process targeted stakeholders and was appropriate for identifying stakeholders' opinions about the project and collecting their views.

For details about the steps taken to assess the adequacy of the Stakeholder consultation, please refer to the Validation protocol in Appendix F section 8.

4.9 Environmental impacts

LRQA has confirmed that the PPs have undertaken an analysis of environmental impacts.

The PPs have submitted documentation to LRQA on the analysis of the environmental impacts of this project activity in accordance with paragraph 37 (c) of the CDM modalities and procedures.

For details about the document review, please refer to the Validation protocol in Appendix F section 9.

5 Comments by parties, stakeholders and NGOs

In accordance with the requirement of the Procedures for Processing and Reporting on Validation of CDM project activities, the PDD is to be made publicly available for 30 days subject to confidentiality provisions agreed with the PP, to enable comments to be received from Parties, stakeholders and UNFCCC accredited NGOs on the validation and registration requirements.

The PDD was made publicly available in accordance with the requirements of the procedure for the period of 29th April 2011 – 28th May 2011 as per http://cdm.unfccc.int/Projects/Validation/DB/7FJT8KR0R6Z7X9P37350KVRFZ61QD6/view.html

The validation team confirmed that the two comments received were adequately dealt with. No further changes on the PDD were necessary.

6 Validation Opinion

LRQA has undertaken the validation of the proposed project activity “Palmares Wind Power Plant Project” based on the requirements of CDM as set out in Article 12 of the Kyoto Protocol, the CDM M&P, the present annex, subsequent decisions made by the COP/MOP and CDM-EB, and the other rules applicable to the proposed project activity including the host country’s legislation and its specific requirements for sustainable development.

The proposed activity is a greenfield project located in the municipality of Palmares do Sul, state of Rio Grande do Sul, Brazil, which consists in the implementation and operation of 21 ENERCON 2 MW wind turbines, for a total installed capacity of 42 MW, sub-divided into the following 3 wind farms: Fazenda Rosário (8 MW), Fazenda Rosário 2 (20 MW) and Fazenda Rosário 3 (14 MW).
The project participants are Enerfin do Brasil - Sociedade de Energia Ltda. and Parques Eólicos Palmares S.A.
The project applies the approved baseline and monitoring methodology ACM0002 Version 12.1.0, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”.

In order to arrive at the final validation conclusions and opinion, LRQA carried out a desk review, site visit, interviews with the staff involved and independent research of alternative information sources in order to cross-check and validate the information, assumptions, calculations and statements presented in the PDD.
The assessment team concluded that the description of the project activity in the PDD is accurate and complete and that all applicability criteria of the methodology ACM0002 Version 12.1.0 are met; the baseline scenario has been correctly identified and the assumptions adopted are sound; the monitoring plan complies with the applicable methodology, with feasible arrangements and sufficient means of implementation to ensure that the emission reductions resulting from the proposed CDM project activity can be reported ex post and verified.
The Project Activity is additional as demonstrated by the financial and common practice analysis; all parameters used in the emission reductions calculations had their sources verified, were correctly interpreted and are conservative choices.
It is reasonably demonstrated that the project is not a probable baseline scenario and that emission reductions attributable to the project are additional to any that would occur in the absence of the project activity.
Local stakeholders, such as the Town Council, the City Hall, the Brazilian forum of NGOs, neighbouring community representatives, the Bar Association and the office of the attorney general, were invited to comment on the project, in accordance with the requirements of Resolution 7 of the Brazilian DNA, as verified by the correspondent protocols of receipt. One comment was received from the City Hall, which was satisfactorily dealt with. No change in the PDD was needed.

Other than the LoA, which has yet to be issued following DNA review ot the Validation Report, there are no project components or issues excluded from the validation.

Through the validation process, the validation team identified 4 CARs and 11 CLs. The PP has taken action on the raised issues and submitted to LRQA the revised PDD and other supporting evidence. Further details on this can be found in the section “Findings”, at the end of Appendix F.

The validation team is of the opinion that the proposed project activity conforms to all the relevant UNFCCC requirements for the CDM as well as the host country’s national requirements and, if implemented as designed, is likely to achieve the validated emission reductions of 200,049 tCO_2e over the first seven year crediting period and contribute to the sustainable development of the host country. Therefore LRQA requests the registration of Palmares Wind Power Plant Project to the CDM Executive Board as a CDM project activity.

Decision Maker

Andrew Ritchie

Climate Change Services Manager
12th October 2011

7 Appendices

7.1 Appendix A: Letter of approval for the project by the host DNA

Letter of Approval from Comissão Interministerial de Mudança Global do Clima has yet to be received

7.2 Appendix B: List of documents reviewed

Category A documents (documents prepared by the PP)

1. Power Purchase Agreement for Rosario wind farm
2. Power Purchase Agreement for Rosario 2 wind farm
3. Power Purchase Agreement for Rosario 3 wind farm
4. Enerfin / DEWI_Wind Study
5. Energy Production Assessment Certificate_Rosario
6. Energy Production Assessment Certificate_Rosario2
7. Energy Production Assessment Certificate_Rosario3
8. EPC Turnkey contract Palmares- Faz Rosario e Faz Rosario 3
9. EPC Turnkey contract Palmares - Fazenda Rosario 2
10. Benchmark calculation (worksheet)
11. CDM Investment analysis PWPPP 2011 05 18_GDP (worksheet)
12. CDM Investment analysis PWPPP 2011 07 12_GDP (worksheet)
13. CDM Investment analysis PWPPP 2011 09 07_GDP (worksheet)
14. Environmental Installation Permits of wind farms Rosário, Rosário 2 and Rosário 3
15. Simplified Environmental Assessment Report, Palmares Project
16. Evidences of local stakeholders consultation
17. Evidences of response to local and global stakeholders
18. Modalities of Comunication Form_Palmares
19. Project Design Document of Palmares Wind Power Plant Project, version 1, 07th March 2011
20. Project Design Document of Palmares Wind Power Plant Project, version 2, 25th July 2011
21. Project Design Document of Palmares Wind Power Plant Project version 3, 07th September 2011
22. Prior Consideration Form sent to DNA_Palmares, with receipt confirmation

Category B documents (other documents referenced)

1. Future Electric Power Technology Choices of Brazil (Energy Policy 29, 2001pag 35-369)
2. Electric Energy National Agency (ANEEL), resolution #77, 18 Aug 2004 (Electricity Transmission System usage fee)
3. Electric Energy National Agency (ANEEL), resolution #907, 11th Nov 2009 (Electricity Transmission System usage fee)
4. ANEEL Energy Generation Data Bank, BIG- *Banco de Informações de Geração de Energia* (2011 03 23)
5. Market Risk Premium (S&P 500 - T-Bonds) http://www.stern.nyu.edu/~adamodar/pc/datasets/histretSP.xls

6. Unlevered Beta (electricity utilities), http://www.stern.nyu.edu/~adamodar/pc/datasets/totalbeta.xls
7. Inflation rate (IPCA): http://www.ibge.gov.br/home/estatistica/indicadores/precos/inpc_ipca/defaultseriesHist.shtm
8. Long Term Brazilian Treasury Bond (type NTN-B) of years 2007, 2008,2009, http://www.tesouro.fazenda.gov.br/tesouro_direto/
9. Electricity tariff [BRL/MWh], Rosário 2: http://www.ccee.org.br/StaticFile/Arquivo/biblioteca_virtual/Leiloes/3_Reserva/Resultado_completo_3_LER_2013.pdf.
10. Electricity tariff [BRL/MWh], Rosário and Rosário 3: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?contentType=RESULTADO_LEILAO&vgnextoid=49f7364a3ef75210VgnVCM1000005e01010aRCRD&qryRESULTADO-LEILAO-CD-RESULTADO-LEILAO=9a9945
11. Taxes (PIS/Cofins), http://www.receita.fazenda.gov.br/principal/Ingles/SistemaTributarioBR/Taxes.htm
12. Taxes (Income / CSSL) http://www.receita.fazenda.gov.br/legislacao/ins/Ant2001/Ant1997/1995/insrf05195.htm and https://www.receita.fazenda.gov.br/PessoaJuridica/DIPJ/2005/PergResp2005/pr517a555.htm
13. Capital asset pricing , ISAE/FGV, Brazil: http://www.carbonnews.com.br/downloads/wacc.pdf and paper "Revisiting The Capital Asset Pricing Model", http://www.stanford.edu/~wfsharpe/art/djam/djam.htm
14. UNFCCC – Parties and Observer States – Brazil Ratification Status http://maindb.unfccc.int/public/country.pl?country=BR
15. Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies (CDM-NM) Version7 http://cdm.unfccc.int/Reference/Guidclarif/pdd/PDD_guid04.pdf
16. Clean Development Mechanism Validation and Verification Manual (Version 01.2) http://cdm.unfccc.int/Reference/Manuals/index.html
17. Guidelines on the assessment of investment analysis – Version 05 http://cdm.unfccc.int/UserManagement/FileStorage/OHNFC4T6RUZEQXDL20JVG7MWK35YI1
18. Tool for the demonstration and assessment of additionality – version 05.2 http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v5.2.pdf
19. Guidelines on the demonstration and assessment of prior consideration of CDM version 4 http://cdm.unfccc.int/Reference/Guidclarif/reg/reg_guid04.pdf

7.3 Appendix C: List of persons interviewed

Mr. Álvaro Martin García	Enerfin	CDM Project Pipeline Manager
José Maria Carrillo	Enerfin	Wind Resources Analyst
Herbert Lier Jr.	Enerfin	System Coordinator

Pablo Renobales Barbier	Enerfin	Financial Analyst
Adriana Breier Bonato	Enerfin	Lawyer
Guilherme Siviero Ribeiro	Enerfin	Environmental Analyst
Felipe Ostermayer	Enerfin	Operations Manager
Flávio Cotrim Pinheiro	Econergy	Director
Gustavo Dorregaray	Econergy	PP Consultant

7.4 Appendix D: How due account has been taken to the public input made to the validation requirements

The PDD was made publicly available in accordance with the requirements of the Procedures for processing and reporting on validation of a CDM project activity for the period of 29th April 2011 – 28th May 2011 as per http://cdm.unfccc.int/Projects/Validation/DB/7FJT8KR0R6Z7X9P37350KVRFZ61QD6/view.html .

Two comments were received during the period, which were made publicly available as per
http://cdm.unfccc.int/Projects/Validation/DB/7FJT8KR0R6Z7X9P37350KVRFZ61QD6/view.html .
Both comments have been taken into consideration by responses sent on 30th May 2011 and 9th June 2011. The validation team confirmed that the two comments received were adequately dealt with. No further changes on the PDD were necessary.

7.5 Appendix E: Certificate of Appointment

Validation of
"Palmares Wind Power Plant Project (PWPPP)"

We hereby certify that the following personnel have engaged in the validation process that has fully satisfied the competence requirements of the validation of the CDM project activity.

Name of Person	Assigned Roles
Cláudia Freitas	Team Leader (until 20th July 2011)
Iuri de A. Barroso	Team Member and Leader (from 20th July 2011)
Talita Beck	Host country expert
Márcio Pragana	Sector Expert
Stephen Ross	Technical Reviewer
Karuna Moorthy	Sector Expert for Technical Review
Andrew Ritchie	Decision Maker

Signed by

Andrew Ritchie
Climate Change Services Manager
12th October 2011

Decision Maker

7.6 Appendix F: Validation Protocol and findings log

This document has been produced by the LRQA Validation Team following the completion of the desk review and the site visit.
It outlines the validated situation in relation to a number of criteria, including those defined in the Validation and Verification Manual (VVM) produced by the CDM Executive Board.
The questions within this document must be completed in full and in your own words. The purpose of this protocol is to record LRQA's opinion and LRQA's findings.

Where LRQA has identified issues requiring corrective action or clarification, a reference is made in the 'Conclusion' column, and details **are stated in the section marked 'Findings'.**

	Validated situation	Conclusion
SECTION 1. Approval		
Host Country Approval		
1. Has the Host country DNA provided a written approval?	Yes ☐ No ☐ NA☐ [3] According to the Brazilian DNA´s rules, the issuance of the Letter of Approval is conditional on the presentation of the DOE´s validation report by PP to the DNA (Resolution No. 1 of September 11, 2003).	Pending
2. Confirm that the letter has been issued by the Party's DNA and is valid for the proposed CDM project activity under validation	Yes ☐ No ☐ NA☐ According to the Brazilian DNA´s rules, the issuance of the Letter of Approval is conditional on the presentation of the DOE´s validation report by PP to the DNA (Resolution No. 1 of September 11, 2003).	Pending
3. Mention the means of validation employed to assess the authenticity of the Letter of Approval. Indicate the source of the LoA (e.g. PP or directly from the DNA)	To be completed after presentation of LoA, at the final stage of validation.	Pending

[3] For each section and question where a YES/NO/NA answer is required, explain your choice.

	Validated situation	Conclusion
4. Does the written Letter of Approval confirm the following: (a) The Party is a Party to the Kyoto Protocol (including ratification); (b) Participation is voluntary; (c) The proposed CDM project activity contributes to the sustainable development of the country; (d) It refers to the precise proposed CDM project activity title in the PDD being submitted for registration.	Yes ☐ No ☐ NA☐ To be completed after presentation of LoA, at the final stage of validation.	Pending
5. Is the letter of approval unconditional with respect of (a) to (d) above	Yes ☐ No ☐ NA☐ To be completed after presentation of LoA, at the final stage of validation.	Pending
6. Does the LoA from the host party acknowledge the bundle activity (if applicable)	Yes ☐ No ☐ NA☐ To be completed after presentation of LoA, at the final stage of validation.	Pending
Annex I Party Approval		
7. Has the Annex I country DNA provided a written approval?	Yes ☐ No ☒ NA☐ The project has currently been proposed as a unilateral CDM project and the Annex I Party has not yet been identified. In line with the provision of paragraph 57 of the 18th meeting of the CDM-EB, registration of a project activity can take place without an Annex I party being involved at the stage of registration.	OK

	Validated situation	Conclusion
8. Confirm that the letter has been issued by the Party's DNA and is valid for the proposed CDM project activity under validation	Yes ☐ No ☐ NA☐ To be completed after presentation of LoA, at the final stage of validation.	Pending
9. Mention the means of validation employed to assess the authenticity of the Letter of Approval Indicate the source of the LoA (e.g. PP or directly from the DNA)	To be completed after presentation of LoA, at the final stage of validation.	Pending
10. Does the written Letter of Approval confirm the following: (a) The Party is a Party to the Kyoto Protocol (including ratification); (b) Participation is voluntary; (c) It refers to the precise proposed CDM project activity title in the PDD being submitted for registration.	Yes ☐ No ☐ NA☐ To be completed after presentation of LoA, at the final stage of validation.	Pending
11. Is the letter of approval unconditional with respect of (a) to (c) above	Yes ☐ No ☐ NA☐ To be completed after presentation of LoA, at the final stage of validation.	Pending
Host Country and Annex I Party Approval		
12. Do any of the Letters of Approval contain additional specification of the project activity? Like: - PDD Version number - Validation report version number Make sure that the request for registration is made on the basis of the documents specified in any of the letters.	To be completed after presentation of LoA, at the final stage of validation.	Pending

		Validated situation		Conclusion
SECTION 2. Participation				
1	Confirm that the PPs are listed in a tabular form in section A.3 of PDD and that this information is consistent with the contact details provided in Annex 1 of the PDD and with the contact details in the MoC.	Host Party PP name in PDD/ A.3	Enerfin do Brasil - Sociedade de Energia LTDA. And Parques Eólicos Palmares S.A.	OK
		Host Party PP name in PDD/ Annex 1	Enerfin do Brasil - Sociedade de Energia LTDA. And Parques Eólicos Palmares S.A.	
		Host Party PP name in MoC	Enerfin do Brasil - Sociedade de Energia LTDA. And Parques Eólicos Palmares S.A.	
		Annex 1 Party PP name in PDD/ A.3	The project has currently been proposed as a unilateral CDM project and the Annex I Party has not yet been identified. In line with the provision of paragraph 57 of the 18th meeting of the CDM-EB, registration of a project activity can take place without an Annex I party being involved at the stage of registration.	
		Annex 1 Party PP name in PDD/ Annex 1		
		Annex 1 Party PP name in MoC		
2	Confirm that each of the PPs has been approved by at least one Party involved	Yes ☐ No ☐ NA☐ To be completed after presentation of LoA, at the final stage of validation.		Pending

		Validated situation	Conclusion
3	Confirm that no entities other than those approved as PPs are included in section A.3 of PDD.	Yes ☐ No ☐ NA☐ To be completed after presentation of LoA, at the final stage of validation.	Pending
4	Ensure that the approval of participation has been issued from the relevant DNA and if in doubt verify this with the corresponding DNA.	To be completed after presentation of LoA, at the final stage of validation.	Pending

	Validated situation	Conclusion
5 Has the MoC been completed as per the latest "Procedures for MoC between the project participants and the Executive Board"? - No modifications to the template/form should be made and each document should be clearly dated - Title of the project and names of project participants and focal points should be fully consistent with those indicated in all other project documentation - Focal point scopes should be clearly and correctly indicated - Contact details and specimen signatures of focal point entities including those of project participants in Annex 1 should be correctly entered. Only one telephone, fax, e-mail contact should be entered per authorized signatory. In cases where additional contact details are included, only the first indicated information will be taken into account and only the official business address of the proposed entity should be provided on the F-CDM-MOC form. - The Statement of Agreement in Section 3 should be signed by one authorized signatory for each project participant; signatures made available in Section 3 should correspond to those indicated in the related Annex 1 document; focal point entities who are not designated as project participants should not sign Section 3.	Yes ☒ No ☐ NA☐ CL08: The PP must submit to the DOE the Modalities of Communication document for verification of contact names. For more details, please refer to the CL08 in the section Findings. The document "Modalities of Comunication Form_Palmares" was assessed and approved. Joint focal point authority was assigned to Enerfin do Brasil Sociedade de Energia Ltda. (primary signatory Mr. G. P. R. and alternate signatory Mr. F.O.) and Enerfin Sociedad de Energia, S.L. (primary signatory Mr. G. P. R. and alternate signatory Ms. E.D.P.). The Statement of Agreement was appropriately signed by the PPs.	CL08 closed OK

	Validated Situation	Conclusion
SECTION 3. Project design document		
1. Is the project activity Small Scale or Normal Scale	Normal Scale ☒ Small Scale ☐ Bundled Small Scale ☐ Nominal power > 15 MW (decision 17 CP.7).	OK
2. Has the PDD used the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM Website? Check outputs from the completeness check.	Yes ☒ No ☐ Guidelines for completing the project design document (CDM-PDD) and the proposed new baseline and monitoring methodologies Version 7 - EB 41 Annex 12	OK

	Validated situation		Conclusion
SECTION 4. Project description			
1. Describe the process undertaken to validate that the description of the proposed CDM project activity as contained in the PDD sufficiently covers all relevant elements, is accurate and that it provides the reader with a clear understanding of the nature of the proposed CDM project activity.	CL11: Review and address comments on the PDD, particularly: Consistent use of Enercon or ENERCON; Sensitivity analysis table transposed IRR variation values; Section E.3 grammar For more details, please refer to the CL11 in the section Findings. Description of project activity (PA): the project boundaries, the arguments regarding the contribution to sustainable development, the technical description of PA were all assessed against the approved methodology (ACM0002) and to the descriptions presented in similar registered projects (Osório Wind Power Plant Project, Liaoning Fuxin Gaoshanzi 100.5MW Wind Power Project and Zafarana 8 - Wind Power Plant Project, Arab Republic of Egypt), regarding their relevance, completeness and accuracy..		CL11, closed OK
2. Confirm that the physical site inspection reflects the description in the PDD of the proposed CDM project activity.	As verified during the site visit, the physical site inspection reflects the description in the PDD of the proposed CDM project activity.		OK
3. If the team did not undertake a physical site inspection, describe the justification as approved by the CDM Quality Manager. (VVM 01.2: 60-61) Describe briefly the physical site inspection: Travel details and installations, facilities and buildings visited.	It was confirmed during the 1 day site visit, on 29 June 2011, that PWPPP is a greenfield project. The visit included the presentation of the project by the PP, desk review, discussion of the technology used, environmental issues, and stakeholders consultation process, among other issues. It was also possible during the visit to observe the operation of a similar project already registered (Osório WPPP, ref. 0603). An evaluation of the project was carried out with respect to its description in the PDD, including the verification of the absence of other processes affected by the project.		OK
4. If the proposed CDM project activity involves the	Pre-project	Project activity	OK

	Validated situation		Conclusion
alteration of an existing installation or process, ensure that the project description clearly states the differences resulting from the project activity compared to the pre-project situation.	According to the PDD, the project situation is that of a greenfield plant.	According to the PDD and as confirmed during the site visit, the proposed project activity consists in the installation of a grid-connected renewable power generation facility at a site where no renewable power plant was operated prior to the implementation of the project activity.	
5. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance (ODA).	According to the PDD, A.4.5, there is no public funding involved on this project activity. No evidence was found contrary to this.		OK
6. If the project activity is a small scale one, confirm that it is not a debundled component of a large scale project, in accordance with appendix C of the simplified M&P for SSC CDM project activities and the Guidelines for assessment of de-bundling for SSC project activities.	The project is not small scale. The output capacity (total nominal capacity: 42 MW, according to PDD A.2) is greater than 15 MW (decision 17 CP.7).		NA

	Validated situation	Conclusion
SECTION 5. Baseline and monitoring methodology		
1. Has the baseline and monitoring methodologies selected by the project participants been previously approved by the CDM Executive Board, i.e. does it appear on the methodologies page of the UNFCCC website?	Yes ☒ No ☐ NA☐ ACM0002 Version 12.1.0. http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L	OK
2. If the project activity is a Small Scale one; does it qualify within the threshold of the three possible types of small scale projects? Confirm information provided in the PDD.	The project is not a small scale one. The output capacity (total nominal capacity: 42 MW, according to PDD A.2) is greater than 15 MW (acc. to decision 17 CP.7).	NA.
3. If the project activity is a Small Scale one; which approved small scale methodology does the project apply? Confirm that the SSC meth is applied in conjunction with the general guidelines to SSC CDM methodologies.	The project is not a small scale one. The output capacity (total nominal capacity: 42 MW, according to PDD A.2) is greater than 15 MW (acc. to decision 17 CP.7).	NA
4. Determine whether the methodology selected is applicable to the project activity including that the used version is valid Describe steps taken to assess the relevant information contained in the PDD in the table below	The arguments presented in PDD for the selection of the methodology were assessed and approved. The PDD refers to the latest approved versions of f ACM0002, version12.1.0, the "Tool to calculate the emission factor for an electricity system", version 2 and the "Tool for the demonstration and assessment of additionality", version 5.2.	OK

No.	Applicability conditions in ACM 0002, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"	Information in the PDD	Steps taken to assess PDD information	Conclusion
#1	"grid-connected renewable power generation project activities that install a new power plant at a site where no renewable power plant was operated prior to the implementation of the	PDD A.2: The Palmares Wind Power Plant Project is a greenfield project located in the municipality of Palmares do Sul, state of Rio Grande do Sul, Brazil.	The information was assessed during the site visit.	OK

	project activity".			
#2	"The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: ... wind power plant/unit, geothermal power plant/unit... ."	PDD A.2: The Palmares Wind Power Plant Project is a greenfield project located in the municipality of Palmares do Sul, state of Rio Grande do Sul, Brazil.	The information was assessed during the site visit.	OK
#3	"The methodology is not applicable to the following: • Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; • Biomass fired power plants; • Hydro power plants1 that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m2."	PDD B.2: In addition, the project does not involve: • fossil fuel switch to renewable energy sources at the site of the project activity; • Biomass fired power plants; • Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4W/m^2.	The information was assessed during the site visit.	OK

	Validated situation	Conclusion
5. Confirm that any specific guidance provided by the CDM Executive Board in respect to an approved methodology has been correctly applied.	CL01: The types and levels of services (i.e. mass or energy flows) are not clearly identified in the PDD, as required by "Guidelines Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)" version 7. For more details, please refer to the CL01 in the section Findings. The guidance provided by the CDM Executive Board in respect to the approved methodology has been correctly applied. The "GUIDELINES FOR THE REPORTING AND VALIDATION OF PLANT LOAD FACTORS" version 1 was considered to validate the plant load factor (used for the calculation of ex-ante baseline emissions and the financial analysis).	CL01 closed OK
6. If a determination regarding the applicability of the selected methodology to the proposed CDM project activity cannot be made, request clarification of the methodology in accordance with the guidance provided by the CDM Executive Board Describe the clarification request and response.	The project activity complies with the applicability conditions of the methodology ACM0002.	OK
7. If the Validation Team determines that the proposed CDM project activity does not comply with the applicability conditions of the methodology the Team may proceed by means of requesting revision to or deviation from the methodology in accordance with the guidance provided by the CDM Executive Board. Describe the request for revision or deviation and approval by the CDM Executive Board.	The project activity complies with the applicability conditions of the methodology ACM0002.	OK

	Validated situation	Conclusion
8. If there are any GHG emissions occurring within the proposed CDM project activity boundary, which are not addressed by the applied methodology and which are expected to contribute more than 1% of the overall expected average annual emissions reductions as a result of the implementation of the project but a determination is made that the approved methodology(ies) is/are applicable to the project activity, provide here information about them in relation to the applicability criteria and justify the determination.	The methodology ACM0002 is applicable to the project. According to the description of the project activity and registered PDDs of similar project activities (Osório Wind Power Plant Project, Brazil, ref. 0603; Liaoning Fuxin Gaoshanzi 100.5MW Wind Power Project, China, ref. 3344 and Zafarana 8 - Wind Power Plant Project, Arab Republic of Egypt, ref. 3501), no other relevant emission is expected. Also, all possible emissions identified during the site visit, such as the transport of employees and maintenance trucks have been ignored due to the fact that the ACM0002, approved methodology version 12.1.0, in the leakage section (page 11) states: ”No leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport). These emissions sources are neglected”.	OK

	Validated situation	Conclusion
SECTION 5a. Project boundary		
1. Does the project boundary include physical, geographical site of the industrial facility, processes or equipment that are affected by the project activity?	Yes ☒ No ☐ NA☐ It was confirmed through interviews with PP´s personnel and the site visit that the project is a greenfield plant. As result, there are no processes or equipment that can be affected by the project activity.	OK

	Validated situation	Conclusion
2. Confirm that all sources and GHGs required by the methodology have been included within the project boundary. Describe here if any emission source that will be affected by the project activity and is not addressed by the approved methodology, has been identified. In such case request clarification of, revision to or deviation from the methodology in accordance with EB guidance. Use the table below for this purpose:	CL 05: The PP shall submit to the DOE the estimations of the emissions not addressed by the methodology, in order to make credible the assumption that those emissions do not achieve 1% of the estimated emission reductions of the project. For more details, please refer to the CL05 in the section Findings. All sources and GHGs required by the methodology have been included within the project boundary. (CO_2 from the grid for the baseline; No emissions for the project activity).	CL 05 closed OK

Gases And Sources Included In The Project Boundary						
	Source	**Gas**	**Inc./Exc. Pdd**	**Justification PDD**	**Steps Taken To Assess PDD Justification**	**Conclusion**
BASELINE	CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO_2	Included	According to ACM0002	According to ACM0002 and the Tool to calculate the emission factor for an electricity system version 2.	OK
PROJECT	None	------	--------	According to ACM0002	Verification during site visit through the observation of a similar registered project already in operation (Osório WPPP, ref 0603) and the description of the project activity as mentioned in documents such as environmental permits.	OK

	Validated situation	Conclusion
SECTION 5b. Baseline identification		
1. Determine whether the PDD provides a verifiable 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.	The identified baseline scenario, the 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 are clearly described in item B.4 of PDD and are in accordance with ACM0002 version 12.1.0.	OK
2. Confirm that any procedure contained in the methodology to identify the most reasonable baseline scenario, has been correctly applied.	Yes ☒ No ☐ NA☐ The scenario identified in PDD is in accordance with ACM0002 version 12.1.0: "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."	OK
3. Check each step in the procedure described in the PDD to identify the baseline scenario against the requirements of the methodology. (Note that if the methodology requires use of tools, i.e. such as the tool for the demonstration and assessment of additionality and the combined tool to identify the baseline scenario and demonstrate additionality, the guidance in the methodology shall supersede it in the tool.)	According to ACM0002 version 12.1.0, once the project is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the Tool to calculate the emission factor for an electricity system. This condition of the project (new grid-connected renewable power plant/unit) was confirmed during the site visit.	OK

	Validated situation	Conclusion
4. Based on financial expertise and local and sectoral knowledge, determine whether all scenarios that are considered by the project participants and are supplementary to those required by the methodology, are reasonable in the context of the proposed CDM project activity and that no reasonable alternative scenario has been excluded. Use the table below for this purpose:	The scenario identified in PDD is in Accordance with ACM0002 version 12.1.0: The scenario was compared to the one described in the registered PDD of similar project activity and in the same country (Osório Wind Power Plant Project – Ref. 0603). No reasonable alternative scenario, other than the one presented in the PDD, was identified. See table below.	OK

Alternative Scenario Ref.	Description in the PDD	Cross-checked with	Validation Opinion
#1	The proposed project activity is not undertaken as a CDM project.	ACM0002 and a similar registered project activity (Osório Wind Power Plant Project, Brazil).	The scenario is realistic and in accordance with local regulations.
#2	The continuation of the current situation, i.e. the power generated under the project would be generated in existing and new grid-connected power plants in the electricity system.	ACM0002 and a similar registered project activity (Osório Wind Power Plant Project, Brazil).	The scenario is realistic and in accordance with local regulations.

5. Determine whether the baseline scenario identified is reasonable by validating the assumptions, calculations and rationales used, as described in the PDD. It shall be ensured that documents and sources referred to in the PDD are correctly quoted and interpreted. Cross check the information provided in the PDD with other verifiable and credible sources, such as local expert opinion. The table above may be used for this purpose.	The baseline scenario identified in PDD, i.e. the operation of grid-connected power plants and the addition of new generation sources, is the current practice and conforms to the methodology applied (ACM0002 version 12.1.0) No other plausible and credible alternatives to the project activity were identified, which are economically attractive and technically feasible.	OK

6. Is the identified baseline scenario in line with regulatory or legal requirements and takes into account relevant national and/or sectoral policies?	Yes. The scenario is legally compliant and is current practice.	OK
7. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc?	Yes. This compliance is validated with reference to official websites of the grid company and energy regulatory authorities. ONS (Operador Nacional do Sistema Eletrico). National Electric System Operator http://www.ons.org.br ANEEL (Agencia Nacional de Energia Electrica). Electric Regulatory Agency http://www.aneel.gov.br CCEE (Camara de Comercializacao de Energia Eletrica) Chamber of Electical Energy Commercialization http://www.ccee.org.br According to ANEEL, the Brazilian interconnected grid installed capacity is composed of 71.2% large-scale hydropower and 24.22% thermal plant, therefore constituting the majority of connected plant. There is no legislation preventing the continuation of these current power plants or the construction of new such power plants.	OK

	Validated situation	**Conclusion**
SECTION 5c. Algorithms and/or formulae used to determine emission reductions		
1. Compare the equations and parameters in the PDD to those in the selected approved methodology and determine if they have been correctly applied to calculate project emissions, baseline emissions, leakage and emission reductions. Confirm that adequate justification has been provided for selection between different options.	The equations and parameters in the PDD were compared to those in the methodology ACM0002 version 12.1.0 and were found correctly applied. There was no need for selection between options.	OK

<table>
<tr><th></th><th>Validated situation</th><th>Conclusion</th></tr>
<tr><td>2. Verify the justification given in the PDD for the choice of data and parameters used in the equations to determine estimated emission reductions.

If data and parameters will not be monitored throughout the crediting period and will remain fixed, assess that all data sources and assumptions are appropriate and calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimate of the emission reductions.

If data and parameters will be monitored on implementation and hence become available only after validation of the project activity, confirm that the estimates provided in the PDD for these data and parameters are reasonable.

List all data and parameters provided in the PDD in the tables in next column.</td><td>
<table>
<tr><th>Data/Parameter title: $EG_{PJ,y}$</th><th>Comments</th></tr>
<tr><td>Title in line with methodology?</td><td>yes</td></tr>
<tr><td>Fixed throughout the crediting period?</td><td>No</td></tr>
<tr><td>Data unit correctly expressed?’</td><td>yes</td></tr>
<tr><td>Appropriate description of parameter?</td><td>yes</td></tr>
<tr><td>Source clearly referenced?</td><td>yes</td></tr>
<tr><td>Value provided is considered reasonable?</td><td>yes (ex ante value)</td></tr>
<tr><td>Has this value been verified?</td><td>yes (ex ante value)</td></tr>
<tr><td>Choice of data correctly justified?</td><td>yes</td></tr>
<tr><td>Measurement method correctly described?</td><td>yes</td></tr>
</table>

<table>
<tr><th>Data/Parameter title: $EF_{grid,OM,y}$</th><th>Comments</th></tr>
<tr><td>Title in line with methodology?</td><td>yes</td></tr>
<tr><td>Fixed throughout the crediting period?</td><td>No</td></tr>
<tr><td>Data unit correctly expressed?</td><td>yes</td></tr>
<tr><td>Appropriate description of parameter?</td><td>yes</td></tr>
<tr><td>Source clearly referenced?</td><td>yes</td></tr>
<tr><td>Value provided is considered reasonable?</td><td>yes (ex ante value)</td></tr>
<tr><td>Has this value been verified?</td><td>yes (ex ante value)</td></tr>
<tr><td>Choice of data correctly justified?</td><td>yes</td></tr>
<tr><td>Measurement method correctly described?</td><td>yes</td></tr>
</table>

The estimates provided in the PDD for these data and parameters are reasonable and are based on the wind certification reports (plant load factor → $EG_{facility,y}$) and the “Tool to calculate the emission factor for an electricity system **(**$EF_{grid,OM,y}$, $EF_{grid,BM,y}$, *and* $EF_{grid,CM,y}$*)*.
</td><td>OK</td></tr>
</table>

<table>
<tr><th></th><th>Validated situation</th><th>Conclusion</th></tr>
<tr><td></td><td>
<table>
<tr><th>Data/Parameter title: $EF_{grid,BM,y}$</th><th>Comments</th></tr>
<tr><td>Title in line with methodology?</td><td>yes</td></tr>
<tr><td>Fixed throughout the crediting period?</td><td>No</td></tr>
<tr><td>Data unit correctly expressed?</td><td>yes</td></tr>
<tr><td>Appropriate description of parameter?</td><td>yes</td></tr>
<tr><td>Source clearly referenced?</td><td>yes</td></tr>
<tr><td>Value provided is considered reasonable?</td><td>yes (ex ante value)</td></tr>
<tr><td>Has this value been verified?</td><td>yes (ex ante value)</td></tr>
<tr><td>Choice of data correctly justified?</td><td>yes</td></tr>
<tr><td>Measurement method correctly described?</td><td>yes</td></tr>
<tr><th>Data/Parameter title: $EF_{grid,CM,y}$</th><th>Comments</th></tr>
<tr><td>Title in line with methodology?</td><td>yes</td></tr>
<tr><td>Fixed throughout the crediting period?</td><td>No</td></tr>
<tr><td>Data unit correctly expressed?</td><td>yes</td></tr>
<tr><td>Appropriate description of parameter?</td><td>yes</td></tr>
<tr><td>Source clearly referenced?</td><td>yes</td></tr>
<tr><td>Value provided is considered reasonable?</td><td>yes (ex ante value)</td></tr>
<tr><td>Has this value been verified?</td><td>yes (ex ante value)</td></tr>
<tr><td>Choice of data correctly justified?</td><td>yes</td></tr>
<tr><td>Measurement method correctly described?</td><td>yes</td></tr>
</table>
</td><td>OK</td></tr>
<tr><td>3. Confirm that all assumptions and data used by PPs are listed in the PDD including their references and sources, and that the documentation used as the basis for these assumptions and source of data is correctly quoted and interpreted in the PDD.</td><td>All assumptions and data used by PPs are mentioned in the PDD including their references and sources. The sources of data are correctly quoted and interpreted in the PDD in section B.6.</td><td>OK</td></tr>
<tr><td>4. Confirm that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.</td><td>The calculation of estimates of the baseline emissions were cross-checked based on the data sources mentioned in the PDD section B.6.3.</td><td>OK</td></tr>
</table>

	Validated situation	Conclusion
SECTION 6. Additionality of a project activity		
1. Does the PDD clearly describe how the proposed CDM project activity is additional?	Yes ☒ No ☐ - Evidence of prior consideration of CDM (prior consideration forms sent to the Host Party DNA on 09th June 2010 and to the UNFCCC secretariat on 08th June 2010 http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html), according to the GUIDANCE ON THE DEMONSTRATION AND ASSESSMENT OF PRIOR CONSIDERATION OF THE CDM. - The identification of alternative scenarios, investment analysis (project IRR versus expected (equity) IRR), and discussion of common practice, as assessed during the desk review and the site visit. For details, please refer to the items 6a to 6e below in this protocol.	OK
2. List the documents and tools provided by the CDM Executive Board used to demonstrate the additionality	1. Combined tool to identify the baseline scenario and demonstrate additionality, version 2.2 2. Tool for the demonstration and assessment of additionality, version 5.2 3. Guidance on the demonstration and assessment of prior consideration of the CDM, version 1. 4. Guidelines on the assessment of investment analysis, version 03.1	-

	Validated situation	Conclusion
SECTION 6a. Prior consideration of the clean development mechanism		
1. Does the PDD clearly indicate the start date of the project activity in format: dd/mm/yyyy and it is in accordance to the Glossary of CDM Terms?	Yes ☒ No ☐ The starting date of the project activity is 14th December 2009, the realisation of Brazilian 2nd Reserve Power Auction as stated in the PDD, in section C.1.1.	OK
If the PDD was published for Global Stakeholder Consultation process after the start date, check that the CDM benefits were considered necessary in the decision to undertake the project activity as a CDM project, following the below queries.		
2. For a project activity with a start date on or after the 2nd August 2008, confirm that the PPs have informed the host party DNA and the UNFCCC secretariat in writing of their intention to seek CDM Status If such a notification has not been provided by the PPs within six months of the project activity start date, determine that the CDM was not seriously considered in the decision to implement the project activity	The Host Party DNA and UNFCCC were notified using F-CDM-Prior Consideration (standard prior consideration forms) sent to the Host Party DNA on 9th June 2010 and to the UNFCCC secretariat on 8th June 2010 http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html The prior consideration of the benefits of the CDM in the decision to undertake the project activity was assessed and validated by the assessment team following the Guidance on the Demonstration and Assessment of Prior Consideration of the CDM EB41 Annex 46. The adoption of the realisation of Brazilian 2nd Reserve Power Auction as the project starting date was assessed and considered reasonable. As the DNA and UNFCCC were notified within the 6 months period from the project activity start date, the prior consideration requirement is therefore validated	OK

	Validated situation	Conclusion
3. For a project activity with a start date before the 2nd August 2008, check the following requirements through document reviews to assess the PPs prior consideration of the CDM: (a) Evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project. (b) Reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation. The time gap between the documented evidence of prior CDM consideration and continuing and real actions shall be within the period required by the Guidance on prior consideration of the CDM If evidence to support the serious prior consideration of the CDM as indicated above that is authentic is not available, determine that the CDM was not considered in the decision to implement the project activity.	N.A.	N.A.

<table>
<tr><th></th><th>Validated situation</th><th>Conclusion</th></tr>
<tr><td colspan="3">SECTION 6b. Identification of alternatives</td></tr>
<tr><td>1. Does the PDD identify credible alternatives to the project activity, in order to determine the most realistic baseline scenario?
Assess this list of alternatives and ensure that:
(a) The list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity;
(b) The list contains all plausible alternatives considered to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity;
(c) The alternatives comply with all applicable and enforced legislation.</td><td>
<table>
<tr><th colspan="3">LIST OF ALTERNATIVES</th></tr>
<tr><td>No</td><td>Description in the PDD</td><td>Describe why it is credible and complete</td></tr>
<tr><td>1</td><td>The proposed project activity is not undertaken as a CDM project.</td><td>According to ACM0002 version 12.1.0</td></tr>
<tr><td>2</td><td>The continuation of the current situation, i.e. the power generated under the project would be generated in existing and new grid-connected power plants in the electricity system.</td><td>According to ACM0002 version 12.1.0</td></tr>
</table>

The list of alternative scenarios contains all plausible alternatives, considering the current practice in the sector.
</td><td>OK</td></tr>
</table>

	Validated situation	Conclusion
SECTION 6c. Investment analysis		
1. Verify the accuracy of financial calculations carried out for the investment analysis: (a) Conduct a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters; (b) Cross-check the parameters against third-party or publicly available sources, such as invoices or price indices; (c) Review feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants;	CAR01: A discrepancy has been noted between the adopted spread value on page 13 of PDD (2%) and the value considered in the financial analysis worksheet (1%). For more details, please refer to the CAR01 in the section Findings. CL02 A discrepancy has been noted between the values in the cells D32, E32 and F32 of the investment analysis worksheet and the corresponding values of each EPC contract. Also, the title of the worksheet in the cell B1, which currently indicates “Osorio Wind Power Plant Project 2”, doesn´t correspond to the assessed project. For more details, please refer to the CL02 in the section Findings.	CAR01,closed CL02,closed CL03, closed CL04, closed and CL06, closed OK

	Validated situation	Conclusion
1. (continuation)	CL03: Comment on the choice of the value of the spread (2%) in the project´s financial analysis. The meaning of the abbreviations TUST and TJLP is not explained in the PDD. For more details, please refer to the CL03 in the section Findings. CL04: Regarding the PDD page 11, item “Brazilian Bond Rate”, 5th line, explain why the inflation rate is said to have been applied on the nominal values, instead of on real values. For more details, please refer to the CL04 in the section Findings. CL 06: The source of the value of $EG_{PJ,y}$ (calculation of ex-ante emission reductions) is not explained in the PDD The financial assumptions, parameters and calculations were assessed during the desk review and the site visit and were considered reasonable and accurate. The period of assessment (27 years) reasonably reflects the period of expected operation of the underlying project activity (technical lifetime) and is in accordance with the GUIDELINES ON THE ASSESSMENT OF INVESTMENT ANALYSIS. For more details, please refer to the CL06 in the section Findings.	OK
2. Assess the correctness of computations carried out and documented by the project participants	The financial assumptions, parameters and calculations (worksheet “CDM Investment Analysis PWPPP 2011 07 12_GDP.xls”) were assessed during the desk review and the site visit and were considered reasonable and accurate.	OK
3. Assess the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions	CAR04: The sensitivity analysis CAPEX value effect on IRR is not in line with the expected result. Increased costs should result in a LOWER IRR value. In the PDD analysis, however the investment analysis shows that increased CAPEX produces a HIGHER IRR. The client is requested to review this. For more details, please refer to the CAR04 in the section Findings.	CAR04 closed CL09, closed OK

	Validated situation	Conclusion
3. (continuation)	CL 09: The PDD explains that a 45% increase would be required to reach the benchmark. The PDD does not present a reasoning regarding the role of the uncertainty in wind survey on the plausibility of a 45% increase in revenues. For more details, please refer to the CL09 in the section Findings. The choice of the parameters considered in the sensitivity analysis, the calculations and the reasoning presented in the PDD were assessed. The arguments presented were considered reasonable. The values of the considered parameters (Revenues, CapEx and O&M) at which the equity IRR would equal the benchmark are highly improbable.	

Use the table below to list all the inputs to the investment analysis and to describe how each parameter has been validated:

Parameter/input	Symbol/ Unit	Value	Source	Means of validation	Conclusion
Average Expected Return on a Risk Free Asset. Data used: Long Term Brazilian Treasury Bond (type NTN-B) of years 2007, 2008, 2009.	%	6.89	Brazilian National Treasury	Direct verification of data on the site http://www.tesouro.fazenda.gov.br/tesouro_direto/, average expected return on long term Treasury Bonds type NTN-B of years 2007-2009.	OK
Market Risk Premium (S&P 500 - T-Bonds)	%	6.03	http://www.stern.nyu.edu/~adamodar/pc/datasets/histretSP.xls	Direct verification of data on the site http://www.stern.nyu.edu/~adamodar/pc/datasets/histretSP.xls, worksheet "Returns by year", cell G97 (Risk Premium, period 1928-2010)	OK
Unlevered Beta (electricity utilities)	-----	0.48	http://www.stern.nyu.edu/~adamodar/pc/datasets/totalbeta.xls	Direct verification of data on the site http://www.stern.nyu.edu/~adamodar/pc/datasets/totalbeta.xls, cells C26, C27 and C28. Average beta=0.48	OK

Inflation rate (IPCA)	%	4.60	Brazilian Institute of Geography and Statistics (IBGE).	Direct verification of data on the site http://www.ibge.gov.br/home/estatistica/indicadores/precos/inpc_ipca/defaultseriesHist.shtm, worksheet "ipca_201106SerieHist", average annual inflation rate, period 2007-2009.	OK
Benchmark - Real Terms	%	9.7	"CDM Investment Analysis PWPPP 2011 07 12_GDP"	Cross checking of calculations in the worksheet "CDM Investment Analysis PWPPP 2011 07 12_GDP"	OK
Benchmark - Nominal Terms	%	14.38	"CDM Investment Analysis PWPPP 2011 07 12_GDP"	Cross checking of calculations in the spreadshhet "CDM Investment Analysis PWPPP 2011 07 12_GDP"	OK
Capital Expenditure (CAPEX)	BRL currency	207,941,774.00	Turnkey Contracts	Assessment of the two EPC turnkey contracts: Rosário & Rosário 3 (page 27 item 11.1) and for Rosário 2 (page 28 item 11.1)	OK
Electricity tariff [BRL/MWh]	BRL currency	146.00 (Faz. Rosario 1 and 3); 125.65 (Faz. Rosario 2)	Worksheet CDM Investment Analysis PWPPP"	Direct verification of data on the official sites: For wind farms Rosário 1 and 3: http://www.ccee.org.br/cceeinterdsm/v/index.jsp?contentType=RESULTADO_LEILAO&vgnextoid=49f7364a3ef75210VgnVCM1000005e01010aRCRD&qryRESULTADO-LEILAO-CD-RESULTADO-LEILAO=9a994595ece85210VgnVCM1000005e01010a____&x=10&y=9, lines 33 and 34. For wind farm Rosário 2: http://www.ccee.org.br/StaticFile/Arquivo/biblioteca_virtual/Leiloes/3_Reserva/Resultado_completo_3_LER_2013.pdf, line "ENERFIN, Fazenda rosário 2"	OK
Net electricity generation	MWh/y	28,901 (Rosario 1), 70,532 (Rosario 2); 48,757 (Rosario 3)	Energy Production Assessment Certificates issued by DEWI GmbH - Deutsches Windenergie-Institut	The values of net annual energy yield in the wind study carried out by Enerfin (ENERFIN_DEWI_WindStudy.pdf) and the corresponding Energy Production Assessment Certificates issued by DEWI GmbH - Deutsches	OK

				Windenergie-Institut (for Rosario, Rosário 2 and Rosário 3 wind farms) were assessed and considered reliable. The values of net annual energy production considered in the financial analysis are for 50% surplus probability (P50), which was considered satisfactorily conservative from the standpoint of demonstration of additionality. The values in the DEWI certificates were cross-checked against those in the financial analysis worksheet (CDM Investment Analysis PWPPP 2011 07 12_GDP.xls).	
Taxes (PIS/COFINS)	%	9.25	Worksheet CDM Investment Analysis PWPPP	Direct verification of data on the site http://www.receita.fazenda.gov.br/principal/Ingles/SistemaTributarioBR/Taxes.htm, "Tax Table", COFINS and PIS.	OK
Taxes (Income / CSLL)	%	34	Worksheet CDM Investment Analysis PWPPP	Direct verification of data on the sites http://www.receita.fazenda.gov.br/legislacao/ins/Ant2001/Ant1997/1995/insrf05195.htm and https://www.receita.fazenda.gov.br/PessoaJuridica/DIPJ/2005/PergResp2005/pr517a555.htm, item 619	OK
TUST	R$/MW	Variable, according to the resolution ANEEL # 907, 11 Nov 2009.	Resolution ANEEL # 907, 11 Nov 2009 Resolution ANEEL # 77, 11 Aug 2004	The calculations of TUST were checked in the worksheet "CDM Investment Analysis PWPPP 2011 07 12_GDP"	OK
O&M	R$/MWh	17 (estimated)	Future Electric Power Technology Choices of Brazil.pdf	Assessment of documentation: study "Future Electric Power Technology Choices of Brazil". Information available in page 13 (O&M for wind generation, in $/MWh.	OK

	Validated situation	Conclusion
4. Confirm the suitability of any benchmark applied in the investment analysis: a. Determine whether the type of benchmark applied is suitable for the type of financial indicator presented; b. Ensure that any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity; c. Determine whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by, for example, assessing previous investment decisions by the project participants involved and determining whether the same benchmark has been applied or if there are verifiable circumstances that have led to a change in the benchmark.	The suitability of the benchmark applied in the investment analysis was assessed: - The model applied for capital asset pricing (CAPM) is common practice in the market (sources ISAE/FGV, Brazil: http://www.carbonnews.com.br/downloads/wacc.pdf., accessed on April 27, 2011 and the paper "Revisiting The Capital Asset Pricing Model", http://www.stanford.edu/~wfsharpe/art/djam/djam.htm, accessed on April 27, 2011.) - The risk premium applied in the calculation of benchmark was deemed adequate, as it considers the expected return on a risky asset as is in accordance with the aforementioned model (in this case S&P 500 - T-Bonds). The unlevered beta was considered for electricity utilities. - Although the new GUIDELINES ON THE ASSESSMENT OF INVESTMENT ANALYSIS version 4, EB61 annex 13 was published after the project starting date, the default value presented in it as an approximate expected return on equity was considered as a basis for comparison with the project´s benchmark value. The project fits in group 1 (energy industries). The expected return on equity according to the guideline is 11.75% (in real terms), or 16.35% in nominal terms, which is higher than the calculated 14.38%. This reasoning is presented by the PP in the PDD and was found reasonable by the validation team as a good cross-check reference for the project´s adopted benchmark value.	OK

	Validated situation	Conclusion
5. In case the project participants rely on values from a Feasibility Study Report (FSR) approved by any national authority, the team is required to ensure that: (a) The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed; (b) The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the DOE should validate the appropriateness of the values; (c) On the basis of its specific local and sectoral expertise, confirmation is provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision. Use the table below to cross-check input values and describe here the results of the comparison.	N.A.	N.A.

Comparison to similar registered project in the region:

CDM Ref	Investment cost	Tariff	O&M cost	Capacity	Output	Investment cost per output	Load factor	O&M relative to investment	O&M per output
Osório Wind Power Plant Project , ref 0603	645,533.000.00	Not available	Not available	150 MW	425GWh/year	4,303,553.00 R$/MW	Not available	Not available	Not available

	Validated situation	Conclusion
SECTION 6d. Barrier analysis		
1. Does the PDD demonstrate that the proposed project activity faces barriers that prevent its implementation and do not prevent at least the implementation of one of the alternatives? Provide here an overall determination of the credibility of the barrier analysis. Use the below table to list each barrier considered in the PDD and to describe how the team undertake their validation.	N.A. The Project Participants have decided not to present a Barrier Analysis since an Investment Analysis has already been presented	N.A.

Barriers are issues in project implementation that could prevent a potential investor from pursuing the implementation of the proposed project activity. The identified barriers are only sufficient grounds for demonstration of additionality if they would prevent potential project proponents from carrying out the proposed project activity undertaken without being registered as a CDM project activity.

Type of Barrier	Description in the PDD	Determination			Conclusion
		Barriers are real	Prevent implementation of PA	Do not prevent implementation of BL	
Access to finance	N.A.				
Risks related barriers					
Technological					
Due to prevailing practice					
Other					
First of its kind					

	Validated situation	Conclusion
SECTION 6e. Common practice analysis		
1. Describe how the geographical scope of the common practice analysis has been validated. Assess whether the geographical scope (e.g. the defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type.	All the 51 projects currently operating in Brazil were considered in the current practice analysis, from which 7projects were considered similar to the proposed project activity. The arguments for choosing these 7 projects, as discussed during the site visit, are credible. The following sources were consulted to assess the choice of these 7 activities as similar ones: A. Exclusion of activities because of governmental incentives and/or CDM consideration: 1. Electrobras (a state controlled electric energy generation, transmission and distribution company): list of activities qualified for PROINFA: http://www.eletrobras.gov.br/ELB/services/eletrobras/ContentManagementPlus/FileDownload.ThrSvc.asp?DocumentID={9B6832B3-F317-4BF6-A663-E466A250B8A7}&ServiceInstUID={9C2100BF-1555-4A9D-B454-2265750C76E1}&InterfaceInstUID={18F15ED9-1E73-4990-8CC6-F385CE19FF17}&InterfaceUID={72215A93-CAA7-4232-A6A1-2550B7CBEE2F}&ChannelUID={B38770E4-2FE3-41A2-9F75-DFF25AF92DED}&PageUID={ABB61D26-1076-42AC-8C5F-64EB5476030E}&BrowserType=IE&BrowserVersion=6 2. CDM validation projects: i. http://cdm.unfccc.int/Projects/Validation/DB/HSLJUUZ9G0RMHT1A6S1F14IMVIZ45B/view.html ii. http://cdm.unfccc.int/Projects/Validation/DB/HMOI5ZUNC27YH7DVBYBCFCRPUZWQ09/view.html iii. http://cdm.unfccc.int/Projects/DB/SGS-UKL1151534607.76/view iv. http://cdm.unfccc.int/Projects/DB/SGS-UKL1156244716.38/view v. http://cdm.unfccc.int/Projects/DB/DNV-CUK1158843861.54/view vi. http://cdm.unfccc.int/Projects/Validation/DB/J6EQPTU2VOQJKGG6LHWEERQVH5Z72F/view.html	OK

	Validated situation	Conclusion
	B. Exclusion of the similar activities: The following sources were consulted to assess the validity of the argumentation that there are essential distinctions between the seven similar activities and the proposed project. i. http://www.wobben.com.br/ ii. http://www.copel.com/hpcopel/root/nivel2.jsp?endereco=%2Fhpcopel%2Froot%2Fpagcopel2.nsf%2Fdocs%2F7333BF89C0F53ADC032573FA006C8A67 iii. http://www.electrapower.com.br/	
2. Determine to what extent similar and operational projects (e.g. using similar technology or practice), other than CDM project activities, have been undertaken in the defined region	All the projects currently in operation in Brazil, other those registered as CDM or receiving government incentives, were considered in the analysis. The information was assessed by direct consultation to the official site: http://www.aneel.gov.br/aplicacoes/capacidadebrasil/GeracaoTipoFase.asp?tipo=7&fase=3	OK
3. If similar and operational projects, other than CDM project activities, are already widely observed and commonly carried out in the defined region, assess whether there are essential distinctions between the proposed CDM project activity and the other similar activities	Seven similar and operational projects, other than CDM project activities and projects receiving incentives, are observed in the defined region. Reasonable arguments were presented in PDD for considering that there are essential distinctions between the proposed CDM project and these 7 activities (subsidized projects for promotion of products, state-owned projects or scale differences).	OK

	Validated situation	Conclusion

SECTION 7. Monitoring plan
1. *Compliance of the monitoring plan with the approved methodology.* Confirm that the MP contains all the necessary parameters and that they are monitored in accordance to the approved Methodology using the following table:

Parameter	Monitoring Meth description	PDD description	Validated situation	Conclusion
$EG_{PJ,y}$	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/y)	Electricity dispatched by the project activity to the grid	The parameter description meaning conforms to the methodology.	OK
$EF_{grid,OM,y}$	Combined margin CO_2 emission factor for grid connected power generation in year *y* calculated using the latest version of the Tool to calculate the emission factor for an electricity system. (tCO_2/MWh)	Operating Margin emission factor factor for the Brazilian interconnected grid in year y	CAR02: Explain why the OM and BM emission factors are not included in the monitoring plan once, according to PDD, "the build margin CO_2 emission factor and operating margin CO_2 emission factor will be monitored ex-post. For more details, please refer to the CAR02 in the section Findings. Instead of $EF_{grid,CM,y}$, the montoring plan mentions the two parameters $EF_{grid,OM,y}$ and $EF_{grid,BM,y}$ from which the $EF_{grid,CM,y}$ is calculated. This was deemed correct and more appropriate, as those are the parameters actually monitored in this project. The resulting $EF_{grid,CM,y}$ is then calculated according to the Tool to calculate the emission factor for an electricity system: $EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$	CAR02,closed OK

$EF_{grid,BM,y}$		Build margin emission factor for the Brazilian interconnected grid in year y	, where, for wind and solar power generation project activities: w_{OM} = 0.75 and w_{BM} = 0.25 for the first crediting period and for subsequent crediting periods.	OK
2. *Implementation of the plan.* confirm that the monitoring arrangements described in the monitoring plan are feasible within the project design Describe the steps undertaken to assess this.		CL10: The monitoring plan is confusing regarding the exact status of metering, data flows and QA/QC. For more details, please refer to the CL10 in the section Findings. The management structure, the designation of responsibilities, the procedures for data QA/QC, data recording and archiving comply with the methodology. The feasibility of the monitoring plan was assessed through the cross-check with other similar registered projects (Osório Wind Power Plant Project Version 04, ref. 0603 and Água Doce Power Generation Project version 3, ref. 0575). The validation team concluded that the arrangements proposed in the PDD are sound.		CL10, closed OK

3. *Implementation of the Plan:* confirm that the means of implementation of the MP, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified	The validation team concluded that the arrangements proposed in the PDD are sound. A. $EG_{PJ,y}$: the fact that the produced energy will be sold to the National Electric System Operator (ONS) binds the PPs to his official monitoring and measurement procedures (ref.: "Grid Procedures Module 12, Measurement for Invoicing") which covers in detail, among others, the arrangements and procedures required for · Installation of measurement system for invoicing · Maintenance of measurement system · Measuring data collection · Certification of work measurement standards · Configuration of measurement system for invoicing Verified source of Grid Procedures Module 12: http://www.ons.org.br/procedimentos/modulo_12.aspx B. $EF_{grid,OM,y}$ and $EF_{grid,BM,y}$: The Brazilian DNA is responsible for calculating the OM and BM emission factor in Brazil. It applies the Tool to calculate the emission factor for an electricity system. http://www.mct.gov.br/index.php/content/view/74689.html	OK

	Validated situation	Conclusion
SECTION 8. Local stakeholder consultation		
1. Determine whether comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited	Copies of invitations for comments posted by the PP to the local stakeholders, as well as the corresponding acknowledgments of receipt (post receipt), were assessed and found in accordance with DNA´s Resolution No. 7 of 5th March 2008.	OK
2. Confirm that the summary of the comments received as provided in the PDD is complete	The summary of the comments received from local and global stakeholder consultation is complete in the PDD.	OK

	Validated situation	Conclusion
3. Confirm that the project participants have taken due account of any comments received and have described this process in the PDD	CAR03: The PDD does not mention the process of stakeholder consultation and how the comments received from the local stakeholders and the ones received from UNFCCC´s site were addressed, as well as the overall conclusion of the consultation process. For more details, please refer to the CAR03 in the section Findings. The assessment team confirms that letters inviting stakeholder comments with the correct content have been sent on 24 March 2011 to all relevant stakeholders as per resolution No. 7 of the Brazilian DNA. Evidence of due account of comments received from local and global stakeholder consultation was assessed. One comment was received from local stakeholders (Palmares municipality) and two from global consultation. All comments were satisfactorily dealt with. No change in the PDD was needed.	CAR03, closed OK

	Validated situation	Conclusion
SECTION 9. Environmental Impacts		
1. Is an EIA required by the environmental legislation of the host country? Describe the legislation applicable.	CL07: The situation of environmental permits for the project is not updated in the PDD. For more details, please refer to the CL07 in the section Findings. The Host Party does not require an environmental impact assessment. The environmental installation permit, valid for the three wind farms, was assessed (LI_PEP_102 2010.pdf). The environmental operation permits were also granted to the projects Rosário 2 and 3. No legislation specific to wind farms was identified.	CL07 closed OK
2. Confirm whether the project participants have undertaken an analysis of environmental impacts and, if required by the host Party, an environmental impact assessment	An analysis of environmental impact was undertaken and verified by the validation team (Environmental Report_Palmares.pdf). An environmental impact assessment was not required by the host party.	OK
3. Confirm that environmental impacts considered significant by the PPs or the Host country are described in the PDD, including mitigation measures.	The environmental impacts considered significant by the PPs or the Host country are described in the PDD, including mitigation measures. Some could be verified during the site visit, such as the underground grid for the connection of WECs or between WECs and the substation and the disposition of construction debris.	OK

Findings[4]

1. Grade / Ref:	CAR01	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:	• Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM) version 7 • CDM VVM v 01.2, paragraph 95				
5. Nature of the Issue Raised:					
A discrepancy has been noted between the adopted spread value on page 13 of PDD (2%) and the value considered in the financial analysis worksheet (1%).					
6. Nature of responses provided by the project participants:					
The PP updated spread value in the financial analysis worksheet from 1% to 2% and consequently obtained an IRR reduction from 6.51% to 5.43%. Additionally the PP corrected the cash-flow in sub-step 2.c) and the sensitivity analysis in sub-step 2.d) of the new PDD version.					
7. Assessment of such responses:					
The values of spread and consequently those of IRR, cash flow and sensitivity analysis were corrected in the worksheet. The corrections did not impact the demonstration of additionality. This CAR01 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
Spread value in the financial analysis worksheet revised with consequently IRR reduction from 6.51% to 5.43%. PDD sub-step 2.c and sensitivity analysis in sub-step 2.d revised					

[4] Explanation of the Findings Log structure:
1. Grading and Sequential Number of the finding 2. Date of Original Finding 3. New, Open, Closed 4. Requirement (VVM, PDD-CDM, etc) 5. Reference to Protocol
6. Details of PP's response 7. Evaluation from the Validation team 8. List of changes made as a result of the finding

1. Grade / Ref:	CAR02	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		• Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)" version 7 • CDM VVM v 01.2, paragraph 95			
5. Nature of the Issue Raised:					
The OM and BM emission factors are not included in the monitoring plan although the PDD states that "the build margin CO_2 emission factor and operating margin CO_2 emission factor will be monitored ex-post".					
6. Nature of responses provided by the project participants:					
These parameters have been included in section B.7.1.					
7. Assessment of such responses:					
All the monitored parameters are now included in the PDD. The CAR 02 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
PDD section B.7.1 revised					

1. Grade / Ref:	CAR03	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		• "Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)" version 7 • CDM Validation and Verification Manual version 01.2, paragraph 95			
5. Nature of the Issue Raised:					
The PDD does not mention the process of stakeholder consultation and how the comments received from the local stakeholders and the ones received from UNFCCC´s site were addressed, as well as the overall conclusion of the consultation process.					
6. Nature of responses provided by the project participants:					
The complete local stakeholder process has been explained in the section E of the new PDD version and the comments received and conclusions are now presented in the PDD.					
7. Assessment of such responses:					
The local and global stakeholder consultation processes and its conclusion was described in section E of PDD. The validator agrees that all relevant comments were satisfactorily dealt with and that no additional action was needed. This CAR03 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
PDD section E revised					

1. Grade / Ref:	CAR04	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		Guidelines for the Assessment of Investment Analysis			
5. Nature of the Issue Raised:					
The sensitivity analysis CAPEX value effect on IRR is not in line with the expected result. Increased costs should result in a LOWER IRR value. In the PDD analysis, however the investment analysis shows that increased CAPEX produces a HIGHER IRR. The client is requested to review this.					
6. Nature of responses provided by the project participants:					
The investment analysis had considered only the variation (+/-10) of the investor share and not the total material investment (Investor share + senior debt). This error affects only the sensitivity analysis elaboration. The investment analysis has been revised to apply the variation to the total material investment resulting in the expected IRR behaviour i.e. increased CAPEX produces a LOWER IRR and vice versa. The changes were made in two specific worksheets 'CAPEX +10%' and 'CAPEX -10%', Worksheet ' CAPEX till Benchmark' now has a LOWER variation (Before -75%, now -27%) to reach the benchmark. The PDD is updated accordingly in v3.					
7. Assessment of such responses:					
The validation team considers that the corrections made, although relevant, did not alter the conclusion of the investment analysis. The above explanation for the error is correct. The revised analysis worksheet (sheets 'CAPEX+10%, 'CAPEX-10%, CAPEX till Benchmark' and 'Summary') have been reviewed and found correctly revised. The summary data has been correctly transcribed to the PDD v3. This CAR is closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
CDM Investment analysis PWPPP 2011 09 07_GDP revised as above PDD sensitivity analysis revised					

1. Grade / Ref:	CL01	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		"Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)" version 7			
5. Nature of the Issue Raised:					
The types and levels of services (i.e. mass or energy flows) are not clearly identified in the PDD, as required by "Guidelines Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)" version 7.					
6. Nature of responses provided by the project participants:					
PWPPP is a Greenfield project that will sell energy exclusively to the national grid. Therefore, all possible mass and energy flows were already contemplated in the PDD.					

7. Assessment of such responses:
The response provided by the PP is reasonable. This CL01 was closed out.
8. References to resulting changes in the PDD or supporting annexes:
Not applicable

1. Grade / Ref:	CL02	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		CDM VALIDATION AND VERIFICATION MANUAL, Version 01.2, paragraphs 30 and 33.a Worksheet "CDM Investment Analysis PWPPP 201105 24_GDP"			
5. Nature of the Issue Raised:					
A discrepancy has been noted between the values in the cells D32, E32 e F32 of investment analysis worksheet and the corresponding values of each EPC contract. Also, the title of the worksheet in the cell B1, which currently indicates "Osorio Wind Power Plant Project 2", does not correspond to the assessed project.					
6. Nature of responses provided by the project participants:					
PP has corrected these worksheets cells (investment of each EPC contract) because they were individually wrong, but the sum of the cells has not changed, so these modifications did not generate changes in the IRR value or sensitivity analysis.					
7. Assessment of such responses:					
The corrections were implemented in the worksheet, without any impact on the result of the investment analysis regarding the project additionality. This CL02 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
Investment worksheet "CDM Investment Analysis PWPPP 201105 24_GDP" revised to 'CDM Investment analysis PWPPP 2011 07 12'					

1. Grade / Ref:	CL03	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		"Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM)" version 7, page 33, item 3.1.d CDM VVM, v 01.2, paragraph 95			
5. Nature of the Issue Raised:					
Comment on the choice of the value of the spread (2%) in the project´s financial analysis. The meanings of the abbreviations TUST and TJLP are not explained in the PDD.					

6. Nature of responses provided by the project participants:
BNDES financing conditions for alternative energy projects, which include wind projects, are: *TJLP + BNDES remuneration (0.9%) + Credit Risk (up to 3.57%)*, as stated in http://www.bndes.gov.br/SiteBNDES/bndes/bndes_pt/Institucional/Apoio_Financeiro/Produtos/FINEM/energias_alternativas.html. The PP considered 2% for credit risk (much lower than 3.57%). This was the spread the PP expected at the time of project starting date. The value presented in the PDD is conservative in the CDM perspective. The meaning of TUST and TJLP were added as a footnote in the page 13 of the new PDD version.
7. Assessment of such responses:
The source of data considered was verified by the validator and was considered credible and the argument presented by the PP to justify the value considered for the spread was considered reasonable. This CL03 was closed out.
8. References to resulting changes in the PDD or supporting annexes:
PDD page 13 revised

1. Grade / Ref:	CL04	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		"Guidelines on the assessment of investment analysis" (version 04)			
5. Nature of the Issue Raised:					
Regarding the PDD page 11, item "Brazilian Bond Rate", 5th line, explain why the inflation rate is said to have been applied on the nominal values, instead of on real values.					
6. Nature of responses provided by the project participants:					
The use of the word "nominal" was an error. It was corrected to "real" in sub-step 2b, section B.5 of the new PDD version.					
7. Assessment of such responses:					
The correction of PDD in sub-step 2b, section B.5 was done. This CL 04 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
PDD section B.5 revised					

1. Grade / Ref:	CL05	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		CDM VVM v 01.2, paragraph 77			
5. Nature of the Issue Raised:					
The PP shall submit to the DOE the estimations of the emissions not addressed by the methodology, in order to make credible the assumption that those emissions do not achieve 1% of the estimated emission reductions of the project.					
6. Nature of responses provided by the project participants:					
All the possible emissions are due to the transport of employees and maintenance trucks and were neglected due to the fact that the ACM002 approved methodology version 12.1 in the leakage section (page 11) states*: "No leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport). These emissions sources are neglected".*					
7. Assessment of such responses:					
The argument presented by the PP was considered correct. As observed by the validation team during the site visit, the emissions not covered by the methodology consist basically of transport, which is addressed as leakage and neglected by ACM0002 page 11. The CL 05 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
Not applicable					

1. Grade / Ref:	CL06	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		CDM VVM, v01.2, paragraph 91			
5. Nature of the Issue Raised:					
The source of the value of $EG_{PJ,y}$ (calculation of ex-ante emission reductions) is not explained in the PDD					
6. Nature of responses provided by the project participants:					
The source of the value of $EG_{PJ,y}$ was included as a comment in sections A.2, B.6.3 and B.7.1 of the new PDD version.					
7. Assessment of such responses:					
The source of the value of $EG_{PJ,y}$ was included in the PDD. This CL 06 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
PDD sections A.2, B.6.3 and B.7.1 revised					

1. Grade / Ref:	CL07	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		CDM VVM v 01.2, paragraph 131			
5. Nature of the Issue Raised:					
The situation of environmental permits for the project is not updated in the PDD.					
6. Nature of responses provided by the project participants:					
The PP updated section D.1 with the information currently available					
7. Assessment of such responses:					
The information regarding the environmental permits for the project activity was updated in the PDD. This CL 07 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
PDD section D.1 revised					

1. Grade / Ref:	CL08	2. Date:	28/06/2011	3. Status:	Closed
4. Requirement:		Procedures for modalities of communication between project participants and the executive board, version 01			
5. Nature of the Issue Raised:					
Submit the Modalities of Communication document for verification of contact names.					
6. Nature of responses provided by the project participants:					
The Modalities of Communication document is being sent along with this response.					
7. Assessment of such responses:					
The Modalities of Communication document was sent by the PP and assessed by the validator. This CL08 was closed out.					
8. References to resulting changes in the PDD or supporting annexes:					
Not applicable					

1. Grade / Ref:	CL09	2. Date:	19/08/2011	3. Status:	Closed
4. Requirement:		"Guidelines on the assessment of investment analysis" (version 04)			
5. Nature of the Issue Raised:					
The additionality arguments are extensively detailed and robust for alternatives, investment analysis, and common practice analysis. Barrier analysis is not required.					

For sensitivity analysis a 10% variation in revenues at first seems rather constrained considering the possible uncertainty in wind power energy yield. However from review of the wind survey, an 11.5% uncertainty in energy yield is stated. . The PDD explains that a 45% increase would be required to reach the benchmark. The PDD does not present a reasoning regarding the role of the uncertainty in wind survey on the plausibility of a 45% increase in revenues.
6. Nature of responses provided by the project participants:
The argument has been strengthened taking into consideration the uncertainty in wind survey.
7. Assessment of such responses:
The argument presented by the PPs in the sensitivity analysis was reviewed and considered sound. The CL 09 was closed out.
8. References to resulting changes in the PDD or supporting annexes:
PDD section B.5 revised

1. Grade / Ref:	CL10	**2. Date:**	19/08/2011	**3. Status:**	Closed
4. Requirement:		Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM) version 7			
5. Nature of the Issue Raised:					
The monitoring plan is confusing regarding the exact status of metering, data flows and QA/QC. **PDD Table B7.1** Description of measurement methods: a) Class of meters. b) Whether CCEE commercial/revenue meter and invoice data used or whether Project metering used c) Procedures; e.g data manually transferred from invoice and cross checked with project Scada data or joint meter reads etc QA/QC not included: a) Accuracy of meter classifications b) Calibration requirements for both CCEE revenue and Project check meters e.g. ANEEL/ONS regulations and manufacturer specifications. c) Revenue and check meter data cross checks. d) Scada data cross checks with physical meter readings d) Discrepancy limits e) Action in event of discrepancies f) Invoice cross checks.					

PDD B7.2 a) It is not clear whether the metered data via the SCADA system is under project control or if the metered data input to SCADA is from CCEE. b) It is not clear which data used for CDM monitoring purposes. Is it : CCEE meter data – Invoicing CCEE meter data - SCADA - CDM monitoring Back up meter (x 3) – data cross checks and fall-back metering
6. Nature of responses provided by the project participants:
In table B.7. PP presents the description of measuring methods and mentioned about cross-checking procedures. Additionally a data flow diagram was added as figure 2 in order to clarify the invoicing and measuring process.
7. Assessment of such responses:
The descriptions of QA/QC procedures, the metering arrangement and meter data flow were included in the PDD and provide the reader with a clear understanding of their configuration. This CL10 was closed out.
8. References to resulting changes in the PDD or supporting annexes:
PDD sections B.7.1 and B.7.2. revised

1. Grade / Ref:	CL11	**2. Date:**	19/08/2011	**3. Status:**	Closed
4. Requirement:		Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed new baseline and monitoring methodologies (CDM-NM) version 7			
5. Nature of the Issue Raised:					
Review and address comments on the PDD, particularly: Consistent use of Enercon or ENERCON Sensitivity analysis table transposed IRR variation values Section E.3 grammar					
6. Nature of responses provided by the project participants:					
Corrections: 1. All the uses of ENERCON name in PDD were updated in all the sections; 2. The labels of 10% and -10% were made consistent with the Figure 2; 3. The grammar suggestions were considered from PP in order to present clear explanations.					

7. Assessment of such responses:
All the corrections mentioned above were made to the PDD and satisfactorily address the issue raised. The CL11 was closed out.
8. References to resulting changes in the PDD or supporting annexes:
PDD sections B.5 and B.7 revised