



VALIDATION REPORT ECOPART ASSESSORIA EM NEGÓCIOS EMPRESARIAIS LTDA

VALIDATION OF THE RENOVA 2010 WIND PARKS

REPORT No. BR. 1077804

REVISION No. 02

BUREAU VERITAS CERTIFICATION

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VALIDATION REPORT

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Client: Ecopart Assessoria em Negócios Empresariais Ltda	Client ref.: Melissa Sawaya Hirschheimer

Summary:

Bureau Veritas Certification has made the validation of the Renova 2010 Wind Parks project of Ecopart Assessoria em Negócios Empresariais Ltda located in Brazil, Bahia state, Igaporã, Pindaí, Guanambi and Caetité municipalities, on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM0002 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 12.3.0, and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: BR.1077804	Subject Group: CDM	
Project title: Renova 2010 Wind Parks		
Work carried out by: Marco Francisco Prauchner – Team Leader Karina Polido – Team Member Bernardo Aleksandravicious – Financial Specialist		
Internal Technical Review carried our by: Guilherme Lefèvre		
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Work approved by:
Flavio Gomes

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1 INTRODUCTION

Ecopart Assessoria em Negócios Empresariais Ltda has commissioned Bureau Veritas Certification to validate its CDM project Renova 2010 Wind Parks (hereafter called “the project”) at Brazil, Bahia state, Igaporã, Pindaí, Guanambi and Caetité municipalities.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

1.3 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	Marco Francisco Prauchner	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input checked="" type="checkbox"/> RI
Verifier	Karina Polido	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input checked="" type="checkbox"/> RI
Technical	N.A.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI



Specialist			
Financial Specialist	Bernardo Aleksandravicious	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input checked="" type="checkbox"/> RI
Internal Technical Reviewer (ITR)	Guilherme Lefèvre	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI
Specialist supporting ITR	N.A.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI

*DR = Document Review; SV = Site Visit; RI = Report issuance

2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual */e/*, issued by the Executive Board at its 55th meeting on 30/07/2010. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The completed validation protocol is enclosed in Appendix A to this report.

2.1 Review of Documents

The Project Design Document (PDD) submitted by Ecopart Assessoria em Negócios Empresariais Ltda and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (CDM-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Ecopart Assessoria em Negócios Empresariais Ltda revised the PDD and resubmitted it on 23/03/2012.

The validation findings presented in this report relate to the project as described in the PDD version 03.



2.2 Follow-up Interviews

From November 07th until 09th, 2011, Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Ecopart Assessoria em Negócios Empresariais Ltda and from Renova Energia S.A. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Renova Energia S.A.	<ul style="list-style-type: none"> ➤ Project background information, ➤ Project technology, operation, maintenance and monitoring capability, ➤ Project monitoring and management plan, ➤ Stakeholder consultation process, ➤ Project status, ➤ Wind power development in the area, ➤ Policies related to wind power projects.
Ecopart Assessoria em Negócios Empresariais Ltda.	<ul style="list-style-type: none"> ➤ Project description, ➤ Technology used, ➤ Project category, ➤ Baseline and Additionality, ➤ Monitoring Plan.

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

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

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.



To guarantee the transparency of the validation process, the concerns raised are documented in more detail in the validation protocol in Appendix A.

2.4 Internal Technical Review

The validation report underwent a Internal Technical Review (ITR) before requesting registration of the project activity.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

The Lead Verifier provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the reviewer ensures that:

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.

The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the validation exercise, review of sample documents.

The reviewer compiles clarification questions for the Lead Verifier and Validation Team and discusses these matters with Lead Verifier.

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the PP(s) the finalized validation report is accepted for further processing such as uploading on the UNFCCC webpage.

3 VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.



The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 13 Corrective Action Requests (CARs) and 20 Clarification Requests (CLs).

The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section corresponds to the VVM paragraph.

3.1 Approval (49-50)

The participation for each project participant has not been approved yet by a Party of the Kyoto Protocol.

3.2 Participation (54)

The participation for each project participant has not been approved yet by a Party of the Kyoto Protocol. Please, refer to section 3.1 of this Validation Report.

3.3 Project design document (57)

The validation team hereby confirms that the PDD complies with the latest forms of the guidance documents for completion of PDD.

3.4 Changes in the Project Activity

As was observed by the validation team through documentation analysis and during the site visit held from November 07th until 09th, 2011, the project is being implemented in accordance with the descriptions provided in the webhosted PDD.

All the other changes that have been made to the different versions of the PDD during the Validation Process, from the webhosted PDD, version 01 /1/ to the final PDD, version 03 /33/, have been supported by CARs and CLs opened by the DOE and have already been discussed in the Validation Protocol.

3.5 Project description (64)

The project activity consists in six Wind Farms, with a total installed capacity of 162 MW, which is expected to deliver to the Brazilian grid, through the Brazilian Interconnected Grid, 742,560 MWh annually, with an average plant load factor of 52.33 %.



The PLF of the Project Activity (52.33%) was validated by the DOE based on data from Garrard Hassan Reports, dated November 22nd, 2010 **/ref 15-20/**. This results in an expected energy generation of 742,560 MWh/year, as stated in the PDD version 3. The PLF was validated based on paragraph 3 (b) of the “Guidelines for the reporting and validation of plant load factors (version 1) **/h/**”, seeing that Garrard Hassan is a third party (e.g. an engineering company) contracted by the project participants to determine the PLF of the wind power plants included in the Project Activity.

The DOE validated the accuracy and completeness of the project description by:

i) The analysis of documents related to the project activity, and their respective crosscheck with the PDD information:

- GE (General Electric) Turbines Technical Description and Data **/21/**;
- Excel Spreadsheets **/3/, /4/, /5/, /6/, /7/, /8/, /34/, /37/, /39/ and /40/**;
- Wind Studies of the six Wind Parks **/15/, /16/, /17/, /18/, /19/ and /20/**;
- RAS – Simplified Environmental Report **/26/**;
- Monthly report of the Project Progress – ANEEL – October 2011 **/22/** (ANEEL – National Electric Energy Agency)

ii) A site visit and interviews with PP and consultant;

iii) An analysis of official background documents related to the project activity:

- Ministerial Orders *Authorization as Independent Producers* of the six Wind Parks **/9/, /10/, /11/, /12/, /13/ and /14/**;
- ONS Data – Energy Generation **/23/**;
- Environmental Construction Licenses **/24/**;
- Environmental Operating Licenses **/25/**;
- Data Sheet from the Energy Research Company, for the six Wind Parks **/31/**. (The Energy Research Company – (Empresa de Pesquisa Energética, EPE, in portuguese) aims to provide services in the area of studies and research to support the planning of the energy sector such as electricity, oil and natural gas and its derivatives, coal, renewable energy sources and energy efficiency, among other.)

The DOE hereby confirms that the project description in PDD, version 3 **/33/** is accurate and complete in all respects and that there are no changes to the project activity/design or boundary as compared to the webhosted PDD, except those changes that have been supported by



CARs and CLs opened by the DOE, which have already been discussed in the Validation Protocol.

3.6 Baseline and monitoring methodology

3.6.1 General requirement (76-77)

The steps taken to assess the relevant information contained in the PDD against each applicability condition are described below.

The project applies the approved baseline methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 12.3.0 */a/*.

The applied baseline methodology is justified as it has been demonstrated that the project activity ensures that:

Applicability conditions:

“Grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant).”

The DOE validate that the project activity is the installation of six new wind power plants at sites where no renewable power plant was operated prior to the implementation of the project activity, by a site visit and by the analysis of project activity related documents:

- Excel Spreadsheets */3/, /4/, /5/, /6/, /7/, /8/, /34/, /37/, /39/ and /40/;*
- Wind Studies of the six Wind Parks */15/, /16/, /17/, /18/, /19/ and /20/;*
- RAS – Simplified Environmental Report */26/;*
- Monthly report of the Project Progress – ANEEL – October 2011 */22/*
- Ministerial Orders *Authorization as Independent Producers* of the six Wind Parks */9/, /10/, /11/, /12/, /13/ and /14/;*
- Environmental Construction Licenses */24/;*
- Environmental Operating Licenses */25/;*
- Data Sheet from the Energy Research Company, for the six Wind Parks */31/.*

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



reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;”.

The DOE validate that the project activity is the installation of six new wind power plant, by a site visit and by the analysis of project activity related documents:

- Excel Spreadsheets */3/, /4/, /5/, /6/, /7/, /8/, /34/, /37/, /39/ and /40/;*
- Wind Studies of the six Wind Parks */15/, /16/, /17/, /18/, /19/ and /20/;*
- RAS – Simplified Environmental Report */26/;*
- Monthly report of the Project Progress – ANEEL – October 2011 */22/*
- Ministerial Orders *Authorization as Independent Producers* of the six Wind Parks */9/, /10/, /11/, /12/, /13/ and /14/;*
- Environmental Construction Licenses */24/;*
- Environmental Operating Licenses */25/;*
- Data Sheet from the Energy Research Company, for the six Wind Parks */31/.*

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

The DOE validate that the project activity is not a capacity addition, retrofit or replacement (it the installation of six new wind power plants), by a site visit and by the analysis of project activity related documents:

- Excel Spreadsheets */3/, /4/, /5/, /6/, /7/, /8/, /34/, /37/, /39/ and /40/;*
- Wind Studies of the six Wind Parks */15/, /16/, /17/, /18/, /19/ and /20/;*
- RAS – Simplified Environmental Report */26/;*
- Monthly report of the Project Progress – ANEEL – October 2011 */22/*
- Ministerial Orders *Authorization as Independent Producers* of the six Wind Parks */9/, /10/, /11/, /12/, /13/ and /14/;*
- Environmental Construction Licenses */24/;*
- Environmental Operating Licenses */25/;*



- Data Sheet from the Energy Research Company, for the six Wind Parks /31/.

“In case of hydro power plants:

- At least one of the following conditions must apply:*

- o The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or*

- o The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m^2 after the implementation of the project activity; or*

- o The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m^2 after the implementation of the project activity.*

In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m^2 after the implementation of the project activity all of the following conditions must apply:

- The power density calculated for the entire project activity using equation 5 is greater than 4 W/m^2 ;*

- All reservoirs and hydro power plants are located at the same river and were designed together to function as an integrated project¹ that collectively constitutes the generation capacity of the combined power plant;*

- The water flow between the multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity;*

- The total installed capacity of the power units, which are driven using water from the reservoirs with a power density lower than 4 W/m^2 , is lower than 15 MW;*

- The total installed capacity of the power units, which are driven using water from reservoirs with a power density lower than 4 W/m^2 , is less than 10% of the total installed capacity of the project activity from multiple reservoirs.”*



The DOE validate that the project activity is the installation of six new wind power plants, by a site visit and by the analysis of project activity related documents:

- Excel Spreadsheets */3/, /4/, /5/, /6/, /7/, /8/, /34/, /37/, /39/ and /40/;*
- Wind Studies of the six Wind Parks */15/, /16/, /17/, /18/, /19/ and /20/;*
- RAS – Simplified Environmental Report */26/;*
- Monthly report of the Project Progress – ANEEL – October 2011 */22/*
- Ministerial Orders *Authorization as Independent Producers* of the six Wind Parks */9/, /10/, /11/, /12/, /13/ and /14/;*
- Environmental Construction Licenses */24/;*
- Environmental Operating Licenses */25/;*
- Data Sheet from the Energy Research Company, for the six Wind Parks */31/.*

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;*
- *A hydro power plant that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the reservoir is less than 4 W/m². ”*

The DOE validate that the project activity does not involve:

- switching from fossil fuels to renewable energy sources,
- Biomass fired power plants,
- Hydro power plant,

by a site visit and by the analysis of project activity related documents:

- Excel Spreadsheets */3/, /4/, /5/, /6/, /7/, /8/, /34/, /37/, /39/ and /40/;*
- Wind Studies of the six Wind Parks */15/, /16/, /17/, /18/, /19/ and /20/;*
- RAS – Simplified Environmental Report */26/;*
- Monthly report of the Project Progress – ANEEL – October 2011 */22/*
- Ministerial Orders *Authorization as Independent Producers* of the six Wind Parks */9/, /10/, /11/, /12/, /13/ and /14/;*
- Environmental Construction Licenses */24/;*
- Environmental Operating Licenses */25/;*



- Data Sheet from the Energy Research Company, for the six Wind Parks **/31/**.

The DOE hereby confirms that the selected baseline and monitoring methodology ACM0002 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources - version 12.3.0 **/a/**, the Tool for demonstration and assessment of additionality - version 6.0.0 **/c/**, the Tool to calculate the emission factor for an electricity system - version 2.2.1 **/b/**, are previously approved by the CDM Executive Board, and are applicable to the project activity, which, complies with all the applicability conditions therein.

The DOE hereby confirms that, as a result of the implementation of the proposed CDM project activity, there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

3.6.2 Project boundary (80)

For ACM0002, version 12.3.0 **/a/**, *“the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to”*.

The DOE validated the project boundary by:

a) Analysis of the PDD and related documents:

- Wind Studies of the six Wind Parks **/15/**, **/16/**, **/17/**, **/18/**, **/19/** and **/20/**;
- Monthly report of the Project Progress – ANEEL – October 2011 **/22/**
- Ministerial Orders *Authorization as Independent Producers* of the six Wind Parks **/9/**, **/10/**, **/11/**, **/12/**, **/13/** and **/14/**;
- Environmental Construction Licenses **/24/**;
- Environmental Operating Licenses **/25/**;
- Data Sheet from the Energy Research Company, for the six Wind Parks **/31/**;
- Brazilian DNA Resolution # 8, issued on 26th of May, 2008, defining the Brazilian Interconnected Grid, which is the project electricity system. Hence, this figure will be used to calculate the baseline emission factor of the grid.

The PDD version 03 **/33/** included at Section B.3, a flow diagram, showing the main features and systems included in the boundary. The Table 4 of



the PDD shows the sources and gases included in the baseline and in the project boundary, with the respective justification.

b) A site visit, that took place from November 07th until 09th, 2011, in PPs main office, with representatives of the Project Participant and Consultants. At the moment of the site visit there were no buildings or systems being implemented related to the project activity. The start date, as defined in the PDD version 03 is 26/08/2010, and is defined as the date of the auction – representing the date when the contract for equipment supply turned valid.

Based on the above assessment, the DOE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

3.6.3 Baseline identification (87-88)

The steps taken to assess the requirement given in paragraph 81 and 82 of the VVM are described below.

The project activity is the installation of six new grid-connected renewable power plants. According to methodology ACM0002, version 12.3.0 **/a/**, the baseline scenario is the following, as defined in the PDD version 03 **/33/**, Section B.4:

“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”.

As methodology ACM0002, version 12.3.0 **/a/** prescribes the baseline scenario and no further analysis is required, there is no need to take steps to identify the baseline scenarios.

Based on the above assessment, the DOE hereby confirms that:

- (a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
- (e) 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.

3.6.4 Algorithms and/or formulae used to determine emission reductions (92-93)

The steps taken to assess the requirement outlined in paragraph 89 the VVM are described below.

The PP correctly calculated the emission reductions and the baseline emissions to the proposed project activity, as predicted by the methodology ACM0002, version 12.3.0 /a/:

Emission reductions (ER_y)

$$ER_y = BE_y - PE_y$$

Where:

ER_y	Emissions reductions in year y (tCO ₂ e/yr)
BE_y	Baseline emissions in year y (tCO ₂ /yr)
PE_y	Project emissions in year y (tCO ₂ e/yr)

Baseline emissions (BE_y)

The baseline scenario represents the electricity that would have otherwise been generated by the operation of the grid-connected power plants and by the addition of new generation sources.

The baseline emissions are calculated as follows:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

Where:

BE_y	Baseline emission in year y (tCO ₂ /yr)
$EG_{PJ,y}$	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
$EF_{grid,CM,y}$	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)

For the quantity of net energy generation ($EG_{PJ,y}$) option a) "Greenfield renewable energy power plants" from methodology ACM0002, version 12.3.0, is applicable because the project activity is a new grid-connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity, and



$$EG_{PJ,y} = EG_{facility,y}$$

Where:

$EG_{PJ,y}$ Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EG_{facility,y}$ Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

Therefore, the quantity of net energy generation that is produced and fed into the grid for the project activity is 742,560 MWh/yr, considering 2.5 % transmission losses. The DOE was able to validate these losses assessing the official CCEE report Public Annual Report – 2009 **/38/**.

For the calculation of the emission factor, which will yield the total equivalent CO₂ emission reduction for this first crediting period, a Combined Margin (CM) was used, in accordance with the six steps of the “Tool to calculate the emission factor for an electricity system”, version 2.2.1 **/b/**.

Step 1.-Identify the relevant electricity systems.

The Brazilian DNA had published the Resolution nr.8, issued on 26th of May, 2008, defining the Brazilian Interconnected Grid, which is the project electricity system. Hence, this figure will be used to calculate the baseline emission factor of the grid.

BVC was able to verify this by crosschecking the above mentioned resolution online at: http://www.mct.gov.br/upd_blob/0024/24719.pdf (accessed on 08/02/2012).

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

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

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

For the calculation of the OM emission factor, the Simple adjusted OM was used in this project.

BVC was able to verify the applicability of this calculation method, checking the last five years electricity generation in the national grid. According to the *Tool to calculate the emission factor for an electricity system*, the Simple OM method can only be used if low-cost/must-run resources constitute less than 50% of total grid generation in: 1) average of the five most recent years, or 2) based on long-term averages for



hydroelectricity production. The PP demonstrates that this is not the case of the Brazilian National Grid, on which Hydro generation prevailed in the last five years.

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

The data on electricity generation were obtained from the Electric System National Operator (ONS), for the years 2008, 2009 and 2010. The public information available is only the net energy generation from every Power Plant and the fuel type. As the fuel consumption is not available, the calculation of the CO₂ emission factor is done based in this fuel type and the Power Plant efficiency, following the Option A2 of the Simple OM Method.

The data source are deemed reasonable and BVC confirms that the calculation is able to be replicated using the data and parameter provided in the PDD.

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

The PP adopted, on the first crediting period, in terms of vintage, the Option 1 of the Tool. According to this Option, for the first crediting period, calculate the build margin emission factor *ex ante* based on the most recent information available on units already built for sample group *m* at the time of CDM-PDD submission to the DOE for validation.

The calculation is done using the most recent information available on units already built for sample group *m* at the time of CDM-PDD submission to the DOE, *i.e.* 2010.

The sample group of power units *m* used by the PP to calculate the build margin correctly consisted of the set of power capacity additions in the electric system that comprise 20% of the system generation (in MWh) and that have been built most recently, since this set of plants comprises the larger annual generation.

The data source are deemed reasonable and BVC confirms that the calculation is able to be replicated using the data and parameter provided in the PDD.

Step 6. Calculate the combined margin (CM) emission factor

The PP correctly adopted the method (a) *Weighted average CM*, provided by the Tool, following their Weighted default values for Wind Farms:

$W_{OM} = 0.75$ and $W_{BM} = 0.25$.

The combined margin is correctly calculated as follows:

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

Project emissions (PE_y)

According to ACM0002, for most renewable power generation project activities, PE_y = 0. However, some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

Where,

PE _y	Project emissions in year y (tCO ₂ e/yr);
PE _{FF,y}	Project emissions from fossil fuel consumption in year y (tCO ₂ /yr);
PE _{GP,y}	Project emissions from the operation of geothermal power plants due to the release of noncondensable gases in year y (tCO ₂ e/yr);
PE _{HP,y}	Project emissions from water reservoirs of hydro power plants in year y (tCO ₂ e/yr).

These project emissions don't occur in the project activity.

Leakage (LE_y)

According to the methodology ACM0002, version 12.3.0, "*no leakage emissions are considered*". Therefore, leakage emissions related to the implementation of the proposed project activity are 0 tCO₂.

Based on the above assessment, the DOE hereby 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 applied correctly 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.

The DOE crosschecked the calculations (algorithms and formulae) of the emission reductions and emission factor of the Brazilian electric grid on the support spreadsheets – ER's calculation - Renova_ERs_2012.02.03 /34/, , Excel Spreadsheet to calculate the Emission Factor "BR EF ex ante 2008 to 2010-def EF tool 2.2-2012.01.11 /8/, against the formulae defined by the methodology ACM0002 version 12.3.0 /a/ and the Tool to calculate the emission factor



for an electricity system version 2.2.1 **/b/**. The data and values adopted in these calculations were crosschecked against official Brazilian energy generation data, available from the ONS.

3.7 Additionality of a project activity (97)

The steps taken and sources of information used, to cross-check the information contained in the PDD on this matter are described below.

To demonstrate its additionality, the Tool for demonstration and assessment of additionality, version 6.0.0 **/c/**, is correctly applied by the Project, as required by the section Additionality of the methodology ACM0002, version 12.3.0 **/a/**.

The details of the DOE assessment on the Project additionality are described in the Sections 3.7.2 to 3.7.5 below, following the steps defined in the Tool for demonstration and assessment of additionality version, 6.0.0 **/c/**.

The information sources used to cross-check the information contained in the PDD on additionality of the project activity were the Investment and the Sensitivity analysis, and their related documents **/21/**, **/27/**, **/31/**, **/32/**, **/32/**, **/35/**, **/36/**, **/38/**, **/39/** and **/40** and the UNFCCC website.

Details on the assessment of the investment analysis and the authenticity of the documentation and data used are described in Section 3.7.3.

3.7.1 Prior consideration of the clean development mechanism (104)

The project activity has a starting date defined in the PDD version 3 **/33/**, as 26/08/2010, which is the date of the auction, representing the date when the contract for equipment supply turned valid. This is in line with the Starting Date definition on the Glossary of CDM terms, version 05 **/f/**.

According to VVM paragraphs 99-102, the Project is a new project activity with a start date after 02/08/2008. The PDD has been published for global stakeholder consultation on 05/10/2011, which is not earlier than the start date of the Project, 26/08/2010.

The PP informed the UNFCCC and the DNA from the commencement of the project:

- Sent to UNFCCC, on January 21st, 2011, the form "Prior Consideration of the CDM Form" **/29/**;
- Sent to the DNA a letter informing the intention to seek CDM status, in the same date, January 21st, 2011 **/28/**



The assessment of the Prior Consideration of the project activity “Renova 2010 Wind Parks” is conducted by consulting the UNFCCC website (<http://cdm.unfccc.int/Projects/Validation/DB/8T6YXJL2D9HKTAB7NECXLXLE903AM4/view.html>), and the DOE hereby confirms that the Period for Comments related to this project activity is from **05 Oct 11 - 03 Nov 11**, and that the CDM benefits were considered necessary in the decision to undertake the project as a proposed CDM project activity.

Based on the above assessment, the DOE hereby confirms that the proposed CDM project activity complies with the requirements of the Guidelines on the Demonstration and Assessment of Prior Consideration of the CDM, version 04 **/d/**.

3.7.1.1 Historical information on project timeline

The main historical information of the project is:

- Project Starting Date is 26/08/2010.
- Prior consideration communication to DNA on 21/01/2011 **/28/**;
- UNFCCC prior consideration communication **/29/**, received by the UNFCCC on 26 Jan 2011;
- PDD uploading on the UNFCCC website for global stakeholders comments from 05 Oct 11 - 03 Nov 11;

3.7.2 Identification of alternatives (107)

The DOE considers the listed alternatives to be credible and complete.

3.7.3 Investment analysis (114)

The project proponent decided to use the “Tool for the demonstration and assessment of additionality” version 6.0.0 **/c/**, which refers to the “Guidelines on the assessment of investment analysis” version 5 **/g/** and, therefore, these guidelines were used in the following analysis.

Validation Team adopted a four steps strategy to confirm the veracity of the conclusion drawn by the project developer:

- a) Evaluating the appropriateness of the benchmark applied for the type of financial indicator presented;
- b) Conducting an assessment of parameters and assumptions used in calculating the financial indicator and determining the accuracy and suitability of parameters and cross-checking the parameters against third-party or publicly available sources;
- c) Assessing the correctness of computations carried out and documented; and



d) Subjecting the critical assumptions of the project activity to reasonable variations to determine under what conditions variations in the result would occur, and the likelihood of these conditions.

a) Suitability of financial indicator and benchmark:

Financial indicator: The project participant has chosen equity IRR to demonstrate the additionality of the project. Additionality Tool (Ver. 6.0.0) **/c/** permits the use of financial indicator, equity IRR, for demonstrating the additionality using benchmark analysis. The tool permits the use of either project IRR or equity IRR. Since the project developer is demonstrating the financial unattractiveness of the project, equity IRR is appropriate, as it is often used by the project developers to make a decision on investing in the project. As such, the selection of equity IRR as financial indicator to demonstrate the additionality of the project is appropriate conforms to the Additionality Tool **/c/**.

Benchmark: Additionality tool (ver.6.0.0) **/c/** states that the discount rates and benchmarks shall be derived from "Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data;", among others. The sub-step II states "When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered."

The project participant has chosen a government bond increased by a suitable risk premium as a benchmark to assess the financial attractiveness of the project activity to demonstrate additionality.

BVC has accepted the benchmark based on the following:

The PP used the CAPM to calculate the benchmark. The Capital Asset Pricing Model (CAPM) is one of the most widely accepted models used to determine the required rate of return on equity. As per option b) provided in the paragraph 15 of Annex 5, EB62, it was estimated using the best financial practices. The CAPM calculates a newly introduced asset's non-diversifiable risk. CAPM takes into account the asset's sensitivity to non-diversifiable risk, better referred to as Beta (β). Embedded in the model is also the market premium which can be tracked using historical data from the local or relevant equity market.



Basically, CAPM consists into a government bond rate increased by a suitable risk premium. It was used a risk-free government bond rate* (30-year US Treasury bond rate of 1.83% s) increased by a risk premium rate of 16.71%.

Benchmark calculation was considered suitable because it followed the best practices in the market and it is closed to the default benchmark from EB62 Annex 5 in nominal terms. According to the referred EB the default benchmark is 11.75% calculated in real terms. In order to calculate the default suggested benchmark in nominal terms it was considered the target inflation rate from the Brazilian Central Bank which was 4.5% at the time of investment decision. Resulting in a nominal benchmark of 16.25% which is close to the benchmark considered in the project PDD.

Benchmark: 18.54%

BVC agrees with all the data used in benchmark calculations and would like to point out that they were clearly presented, available to consult and correct.

b) Description of the parameters and assumptions used in the investment analysis, description of the means of validation and the procedures to cross-check the parameters against third-party or publicly available sources.

Input Values/Assumptions	Value	Means of validation
Date of investment decision	26/08/2010	It was cross-checked by using a document MoU Renova /32/ provided by the PP. The referred document is a Memorandum of Understanding (MoU) between the wind turbines manufacturer and the PP, the referred document shows that the commitment to execute the investment described in the PDD would only be legally binding if and when the PP participated successfully of the CCEE Report - 3 rd Reserve Energy Auction results /35/, which took place on August 26 th , 2010, thus the date in which the MoU became legally binding . As the period between Investment decision date, and the starting date is zero - they occurred in the same date, the validation team decided to accept the date of investment decision.
Installed capacity	158.4 MW	It was cross-checked by using third parties available sources. A preliminary technical study was conducted by Garrad Hassan /36/ which is a third party entity. DOE was able to

* Risk-free rate value (30-year US Treasury Yield) from Yahoo Finance available at:
<<http://finance.yahoo.com/q/hp?s=%5ETNX>>.



		cross-check the total installed capacity assumption by analyzing the referred study.
Total Investment	BRL (x1000) 669,145	<p>It was cross-checked by using third parties available sources.</p> <p>The project's total investment per installed capacity is around USD 2 million/MW – using exchange currency of 2 BRL / USD and it was determined by a MoU /32/ between the PP and the Costs Estimative for the Implantation of Renova Wind Farms - LAUREANO & MEIRELLES ENGENHARIA /41/.</p> <p>The suitability was assessed by comparing such value with other projects:</p> <ul style="list-style-type: none"> - Rio do Fogo Wind Farm* (Brazil) – USD 2 million/ MW ; - Osorio Wind Farm[†] (Brazil) – USD 2.6 million/ MW; - Fuerza Eólica del Istmo Wind Farm[‡] (Mexico) – USD 2.5 million/ MW; - Electrica del Valle de Mexico Wind Farm[§](Mexico) – USD 2.6 million/ MW; - Los Cocos Wind Farm (Dominican Republic)** – USD 2.7 million/ MW; <p>All referred projects are similar and comparable to the project activity, in special the wind farm projects from Brazil. In conclusion, based on the total investment cost per MW comparison the validation agreed with the suitability and appropriateness of the referred input value. It is important to highlight that all the information used was available at the time of investment decision.</p>
O&M costs	BRL 53,000/ MW per year	It was cross-checked by using a third party available source. The validation team cross-checked this assumption against the Memorandum of Understanding – MoU from GE /32/ , and the ENEX Maintenance Proposal /27/ .
Sales price or energy	BRL 121.25	The value used in the financial analysis was crosscheck with a third party available source which is also publicly

* <https://www.eleconomista.es/mercados-cotizaciones/noticias/6478/04/06/Economia-Empresas-Iberdrola-pone-en-marcha-su-primer-parque-eolico-en-Brasil-con-66-millones-de-euros-de-inversion.html>, accessed on 01/12/2011.

† <http://www.eleconomista.es/mercados-cotizaciones/noticias/40593/07/06/Economia-Empresas-Elecnor-pone-en-marcha-un-parque-eolico-en-Brasil-con-una-inversion-de-2456-millones-de-euros.html>, accessed on 01/12/2011.

‡ <http://cdm.unfccc.int/UserManagement/FileStorage/QU24R97J1OK0W63XVBLC5HG8TNZMAE> accessed on 01/02/2012.

§ <http://cdm.unfccc.int/UserManagement/FileStorage/J1HGRV0CNP9LBOEWA7FT6MI8S3XD52> accessed on 10/12/2011.

** http://www.oficinascomerciales.es/icex/cda/controller/pageOfecomes/0,5310,5280449_5282927_5284940_4315472_DO,00,html accessed on 30/12/2011.



price		available: the result of the Third Reserve Energy Auction /35/ , which is the official result published by CCEE, also available online on the CCEE website.
Period of assessment	20 years	It was cross-checked by using a third party available report. The project IRR calculation reflects the period of expected operation of the underlying project activity (technical lifetime). According to turbines specification from GE (technical report /21/) the operational lifetime is 20 years. The period of assessment (20 years) is in line with paragraph 3 of the Guidelines on the assessment of investment analysis (version 05), which defines a minimum period of 10 years and a maximum of 20 years as appropriate
PLF	53.74 %	It was cross-checked by using third party available source, a preliminary technical study conducted by Garrad Hassam /36/ which is a third party entity. DOE was able to cross-check the total installed capacity assumption by analyzing the referred preliminary study.

Depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, was added back to net profits for the purpose of calculating the project IRR. Taxation was not included as an expense in the IRR calculation.

Input values used in all investment analysis were valid and applicable at the time of the investment decision taken by the project participant. The validation team validated the timing of the investment decision and the consistency and appropriateness of the input values with this timing. Also it were validated that the listed input values had been consistently applied in all calculations. Project participants supplied spreadsheets versions of all investment analysis. All formulas used in this analysis were readable and all relevant cells were viewable and unprotected.

c) Assessment of correctness of computation: BVC checked all formulas in all spreadsheets presented by the project proponent. The assessment involves checking the data input taken from quotation/documents, adoption of correct accounting principle and arithmetical accuracy. BVC checked the quotation/ documents and ensured that right input has been taken in the project cost and projections. The accounting principles adopted for computing depreciation, tax, costs are found to be in order. The arithmetical accuracy is also found to be correct. The principle adopted by the project participant for computing equity IRR is in conformity with the "Guidance on the Assessment of Investment Analysis" issued by EB. Based on the above, the IRR of the project was lower in



contrast to the benchmarks. However, the conclusion was checked by subjecting the critical assumptions to reasonable variations.

d) Sensitivity analysis: The Guidance on Assessment of Investment Analysis requires the robustness of the conclusion arrived at to be proved through a sensitivity analysis by varying the critical assumptions to a reasonable variation ($\pm 10\%$). To confirm how solid the investment analysis is, project participants presented a sensitivity analysis varying the most important parameters: (i) increase in energy generation, (ii) increase in the tariff and (iii) reduction in expected investment.

The sensitivity analysis confirmed that the project activity is not financially attractive once the project internal rate of return is lower than the benchmark in all scenarios analysed. Sensitivity analysis is available in tables 8, 9 and 10 from PDD.

In 03th June 2011, UNFCCC published version 04 of the guidance of the investment analysis where an approximate expected return on equity for different project types and host countries is published. These values can also be used as default values. The expected return on equity for electricity projects in Brazil, in real terms, is 11.75% (and 16.25% in nominal terms) accordingly this guidance.

The DOE would like to observe that the benchmark calculated by the PP in the PDD version 3 (18.54%) and the default benchmark of the "Guidelines on the assessment of investment analysis" version 05 (11.75%) are higher than the project IRR. Note that according to the "Guidelines on the assessment of investment analysis" version 05 the default values are expressed in real terms, which has to be adjusted in order to be compared in the same terms.

The DOE would like to observe that the investment analysis submitted by PP in previous versions of the PDD (version 1 and 2) was prepared taking into account information that was unavailable at the moment of investment decision. More specifically, the Garrad Hassan Reports **/Ref 15-20/** were used to define the input values in the investment analysis "Plant Load Factor (%)" and "installed capacity (MW)". These reports were prepared after the investment decision date and cannot be used in the investment analysis as per paragraph 6 of EB 62 ANNEX 5. The investment decision was on 26/08/2010 and the Garrad Hassan Reports are from 22/11/2010. Seeing the above, CAR 10 was raised.

To address CAR 10, the investment analysis was modified in version 3 of the PDD. At the time of decision making, information that PP had regarding the expected power generation configuration of the Project Activity was obtained from the Garrad Hassan Preliminary Wind Study, dated August 24, 2010 **/36/**. These data resulted in a PLF of 53.74% and an expected energy generation of 745,646 MWh/year. Therefore, these



were the values used in the investment decision included in the PDD version 3.

To ensure the conservativeness of the additionality analysis presented in the PDD version 3 (according to paragraph 30 of VVM), PP was asked to submit two financial analyses: (1) financial analysis according to available data during the moment of investment decision **/39/**, based on data from Garrad Hassan Preliminary Wind Study, dated August 24, 2010 **/36/** and (2) financial analysis taking into account the most updated technical configuration of the Wind Power Plants **/40/**, based on data from Garrad Hassan Wind Studies **/15-20/**. The DOE analyzed the two investment analysis presented and could observe that, in both scenarios, the IRR of the project remained below the benchmark.

Conclusion:

Project IRR:

Renova – 10.76% (nominal terms)

PDD's Benchmark – 18.54% (nominal terms)

UNFCCC default Benchmark – 11.75% (real terms)

UNFCCC default Benchmark – 16.25% (nominal terms – considering inflation rate of 4.5%)

Based on the foregoing, BVC has concluded that the project activity faces investment constraint as much as the equity IRR is less than the benchmark return and will continue to remain additional even under most optimistic conditions (based on sensitivity analysis), and thus the validation team has arrived at the conclusion that the project activity is additional and is not a business-as-usual case. The CDM registration would help PP in overcoming the investment case identified above.

CLs BQA 1 to 3 and CARs BQA 1 to 3 were issued and they have been satisfactorily solved and closed. Refer to Appendix A.

The DOE, based on the assessment result by the financial expert engaged, hereby confirms that the underlying assumptions are appropriate and the financial calculations are correct.

3.7.4 Barrier analysis (118)

Barrier analysis was not adopted to demonstrate the Project additionality.

3.7.5 Common practice analysis (121)

The geographical scope of the common practice analysis is the Brazilian territory. This is in line with the requirements of the Tool for demonstration and assessment of additionality, version 6.0.0 **/c/**, sub-step 4a, and the Guidelines on Common Practice version 1.0 **/k/**.



The DOE assessed the existence of similar projects in the Brazilian on the ANEEL data base, at the website <http://www.aneel.gov.br/aplicacoes/capacidadebrasil/GeracaoTipoFase.asp?tipo=7&fase=3>.

The PDD version 3 **/33/**, presented the Common Practice analysis following the requirements of the Guidelines on Common Practice version 1.0 **/k/**, and the values of N_{all} and N_{diff} were crosschecked by the DOE in the official Ministry of Mines and Energy website <http://www.mme.gov.br/programas/proinfa/>.

The DOE hereby confirms that the proposed CDM project activity is not common practice.

3.8 Monitoring plan (124)

The DOE hereby confirms that the monitoring plan complies with the requirements of the methodology.

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design are described below.

The Project uses the methodology ACM0002 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 12.3.0 **/a/**. The project involves the installation of six new grid connected renewable power plants, using wind energy.

The combined emission factor is determined ex-ante, based on the most recent information available.

In accordance to the monitoring plan, the only parameter that will be monitored is the quantity of net electricity generation supplied by the project plant to the grid in year y, following the procedures and requirements established by ONS which defines the technical characteristics and precision class (0.2% of maximum permissible error) of the electricity meters to be used.

Operational management for the Project is comprehensively detailed in the PDD. It includes description of the responsibilities, equipment requirements and record needs, all elements which could ensure that the monitoring plan could be followed during the operation of the Project.

The DOE hereby confirms that the project participants are able to implement the monitoring plan.



3.9 Sustainable development (127)

The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party. Refer to item 3.1 of this report.

3.10 Local stakeholder consultation (130)

The steps taken to assess the adequacy of the local stakeholder consultation are described below.

The PP conducted Local and National Stakeholder consultations, before the publication of the PDD on the UNFCCC website, on 05 Oct 11.

According to Resolution #7, issued on March 5th 2008, Brazilian Designated National Authority (Comissão Interministerial de Mudanças Globais do Clima – CIMGC), requests, among other documents, comments from local stakeholders in order to provide the Letter of Approval for a project.

The Resolution determines that the project proponent has to send invite for comments, at least, the following agents involved in and affected by project activity:

- Municipal governments and City Councils;
- State and Municipal Environmental Agencies;
- Brazilian Forum of NGOs and Social Movements for Environment and Development;
- Community associations;
- State Attorney for the Public Interest (state and federal).

The same resolution also requires that at the time these letters are sent, a version of the PDD in the local language and a declaration stating how the project contributes to the sustainable development of the country must be made available to these stakeholders at least 15 days previous to the starting of the Global Stakeholder Process (GSP). The Portuguese version of the PDD was published at the internet website <<http://sites.google.com/site/consultadcp/>> on 16/09/2011 which is also the date when the invitation letters were sent to the following agents:

- Federal Attorney for the Public Interest;
- State Attorney for the Public Interest of Bahia;
- Environmental Agency of Bahia (INEMA from the Portuguese Instituto de Meio Ambiente e Recursos Hídricos);
- Brazilian Forum of NGOs and Social Movements for Environment and Development;
- City Halls of Igaporã, Pindaí, Guanambi and Caetité;
- City Councils of Igaporã, Pindaí, Guanambi and Caetité;
- Environmental Agencies of Igaporã, Pindaí, Guanambi and Caetité;
- Community Associations of Igaporã, Pindaí, Guanambi and Caetité.



During the on-site visit, the DOE had access to the records from these letters and post office confirmation of receipt /30/, and is able to confirm that the procedures to conduct the local stakeholders comment are transparent. Furthermore, no comments have been received yet.

The DOE hereby confirms that the process of local stakeholder consultation is observed to be adequate.

3.11 Environmental impacts (133)

In Brazil, the sponsor of any project that involves construction, installation, expansion or operation of any polluting or potentially polluting activity or any other capable to cause environmental degradation is obliged to secure several permits from the relevant environmental agency (federal and/or local, depending on the project).

The environmental impact of Wind Power Plants as the ones considered in the proposed project activity is considered small given the other sources of electricity generation. For this reason, in accordance with the National Environment Council (from the Portuguese CONAMA - *Conselho Nacional do Meio Ambiente*) Resolution #279, dated 27/06/2001 //, wind power plants must do the a simplified environmental impact assessment in order to obtain the necessary licenses to the project.

The DOE assessed a copy from the Simplified environmental report /26/.

Licenses required by the CONAMA - (Resolution #237/0139) are:

- The preliminary license (*Licença Prévia* or LP);
- The construction license (*Licença de Instalação* or LI); and
- The operating license (*Licença de Operação* or LO).

The process starts with a previous analysis by the local environmental department of the simplified environmental impact assessment. The result of those assessments is the Preliminary License (LP), which reflects the environmental local agency positive understanding about the environmental project concepts. In Bahia State, where the wind farms are located, this first permit is called Localization License (LL).

In order to obtain the Construction License (LI) it is necessary to present (a) additional information about previous assessment; (b) a new simplified assessment; or (c) the Environmental Basic Project, according to the environmental agency decision informed at the LP.

The Operation License (LO) is a result of pre-operational tests during the construction phase to verify if all exigencies made by environmental local agency were completed.



During the site visit, it was evidenced by the DOE the Localization License #3932, dated 06/03/2009, valid for 5 years, referring to Da Prata Wind Farm, and Localization License #4115, dated 30/07/2010, valid for 5 years, referring to Dos Araçás, Seraíma, Tanque, Morrão and Ventos do Nordeste Wind Farms.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD using methodology ACM0002 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 12.1.0, was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The project was webhosted from 05 Oct 2011 - 03 Nov 2011.

No comments were received.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Renova 2010 Wind Parks project in Brazil. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides analysis of investment to determine that the project activity itself is not the baseline scenario.

By the construction of six wind farm with 162 MW installed power, in the Bahia state, Brazil, renewable energy will be delivered to the National Interconnected Electric System, the project is likely to result in reductions of GHG emissions partially. An analysis of the investment demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the DOE hereby confirms that the estimated amount of 1,168,468 tCO₂e emission reductions, during the 1st crediting period, is correct.

The review of the project design documentation (version 03) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated



criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification thus requests registration of 'Renova 2010 Wind Parks' as CDM project activity.

6 REFERENCES

Category 1 Documents:

Documents provided by Ecopart Assessoria em Negócios Empresariais Ltda and Renova Energia S.A. that relate directly to the GHG components of the project.

- /1/ PDD version 01, dated September 16, 2011
- /2/ PDD version 02, dated December 23, 2011
- /3/ Excel Spreadsheet – Economic Model - FCF_Renova_EQAO_IPI
- /4/ Excel Spreadsheet – Economic Model - FCF_Renova_v.2-2011.12.23
- /5/ ER's calculation - Renova_ERs_2011.09.16
- /6/ ER's calculation - Renova_ERs_2011.12.23
- /7/ Excel Spreadsheet to calculate the Emission Factor "BR EF ex ante 2008 to 2010-def EF tool 2.2-2011.10.06"
- /8/ Excel Spreadsheet to calculate the Emission Factor "BR EF ex ante 2008 to 2010-def EF tool 2.2-2012.01.11"
- /9/ Ministerial Order # 332_11 – Authorization as Independent Producer - Seraíma
- /10/ Ministerial Order # 330_11 – Authorization as Independent Producer – Tanque
- /11/ Ministerial Order # 268_11 – Authorization as Independent Producer - Morrão
- /12/ Ministerial Order # 241_11 – Authorization as Independent Producer – dos Araçás
- /13/ Ministerial Order # 177_11 – Authorization as Independent Producer – da Prata
- /14/ Ministerial Order # 161_11 – Authorization as Independent Producer – Ventos do Nordeste
- /15/ Wind Study – GL Garrad Hassan – Seraíma, dated November 22nd, 2010
- /16/ Wind Study – GL Garrad Hassan – Tanque, dated November 22nd, 2010
- /17/ Wind Study – GL Garrad Hassan – Morrão, dated November 22nd, 2010
- /18/ Wind Study – GL Garrad Hassan – dos Araçás, dated November 22nd, 2010
- /19/ Wind Study – GL Garrad Hassan - da Prata, dated November 22nd, 2010
- /20/ Wind Study – GL Garrad Hassan – Ventos do Nordeste, dated November 22nd, 2010
- /21/ GE Turbines Technical Description and Data
- /22/ Monthly Report of Project Progress – ANEEL – October 2011
- /23/ ONS Data – Energy Generation
- /24/ Environmental Construction License
- /25/ Environmental Operating License
- /26/ RAS – Simplified Environmental Report
- /27/ ENEX Maintenance Proposal
- /28/ Prior Consideration letter sent to the Brazilian DNA, dated January 21st, 2011
- /29/ Prior Consideration Form
- /30/ Copy of letters sent to the local stakeholders consultation process and



- respective evidence Receipt of Letters, sent by the Postal Service
- /31/ Data Sheet from the Energy Research Company, for the six Wind Parks
 - /32/ MoU Renova
 - /33/ PDD version 03, dated March, 23, 2012
 - /34/ ER's calculation - Renova_ERs_2012.02.03
 - /35/ CCEE Report - 3rd Reserve Energy Auction
 - /36/ Garrad Hassan Preliminary Wind Study – dated August 24 2010
 - /37/ Excel spreadsheet - PLF RENOVA_2012.04.03
 - /38/ CCEE report Public Annual Report – 2009
 - /39/ FCF_Renova_v.4-2012.04.03 - aug2010 data
 - /40/ FCF_Renova_v.4-2012.03.19 - nov2010 data
 - /41/ Costs Estimative for the Implantation of Renova Wind Farms - LAUREANO & MEIRELLES ENGENHARIA, dated July 13th, 2010

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- /a/ ACM0002, version 12.3.0 - EB 66, Annex 35
- /b/ Tool to calculate the emission factor for an electricity system, version 2.2.1 – EB 63, Annex 19
- /c/ Tool for demonstration and assessment of additionality, version 6.0.0 – EB 65 Annex 21
- /d/ Guidelines on the Demonstration and Assessment of Prior Consideration of the CDM, version 4 – EB 62, Annex 13
- /e/ Validation and Verification Manual, version 1.2 – EB 55, Annex 01
- /f/ Glossary of CDM Terms, version 05, from 19 August 2009
- /g/ Guidelines on the assessment of investment analysis, version 5 – EB 62, Annex 5
- /h/ Guidelines for the Reporting and Validation of Plant Load Factors, version 1 – EB 48, Annex 11
- /i/ Clean Development Mechanism - Project Design Document Form (CDM-PDD), version 3 – EB 25, Annex 15
- /j/ Guidelines for completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies (CDM-NM), version 7 – EB 41, Annex 12
- /k/ Guidelines on Common Practice, version 1.0 – EB 63, Annex 12
- /l/ CONAMA – Resolution # 279, dated June 27th, 2001
- /m/ CIMGC – Resolution # 7
- /n/ CIMGC – Resolution # 8
- /o/ ONS Procedures – Submodules 12.2 and 12.3

Persons interviewed:

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.



- /1/ Ana Paula Veiga – Consultant
- /2/ Renato P. de Oliveira – Consultant
- /3/ Daniel Famano – Financial Planning Manager – Renova
- /4/ Fernanda Kitamura dos Santos – Financial – Renova

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7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Bureau Veritas Certification – Internal Technical Reviewer

Guilherme Lefèvre – is graduated in Law with experience in GHG Programs, both compulsory and voluntary. Guilherme has vast experience in the development and analysis of CDM, VCS, Social Carbon and CCBS projects. He has an MSc degree in Environmental Science - São Paulo University. Guilherme trained as a lead auditor in the fields of environment (ISO 14001) and GHG – Green House Gas.

Bureau Veritas Certification – Team Leader

Marco F. Prauchner – is graduated in Mechanical Engineering with experience in Quality and Environmental management in mechanical, plastic and chemical industries. He is ISO 9001:2008 and ISO 14001:2004 Lead Auditor and has also experience in the implementation of Environmental Management Systems. Marco is qualified as Lead Verifier GHG – Green House Gases.

Bureau Veritas Certification – Team Member

Karina Polido - is graduated in Civil Engineering with experience in management system audits. She is ISO 9001:2008 and ISO 14001:2004 Lead Auditor. Karina is also qualified as Lead Verifier GHG – Green House Gases.

Bureau Veritas Certification – Financial Specialist

Bernardo Aleksandravicius is graduated in Business Administration with a very expressive experience in valuation of new projects in the electrical and technology sectors; Equity analyst with focus on the consumer staples, consumer discretionary, technology and telecommunications sectors for many companies in Brazil.

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VALIDATION REPORT

APPENDIX A: COMPANY CDM PROJECT VALIDATION PROTOCOL

Table 1 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2) and methodology ACM0002 (Version 12.1) – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft	Final
				Concl	Concl



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			COUNTRY A (Brazil)	COUNTRY B (insert the country name)		
a. Have all Parties involved approved the project activity?	VVM	44	Please refer to item 1.b below	Not applicable	OK	OK
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participant or directly from the DNA)	VVM	45	The final decision from the Brazilian DNA will be available only after its first ordinary meeting, after the receiving of all the required documents necessary for evaluation, including this validation report, according to Article 6 of the Resolution number 1 of the Brazilian DNA: CIMGC – Comissão Interministerial de Mudança Global do Clima. (http://www.mct.gov.br/upd_blob/0023/23433.pdf (accessed on 02/09/2010).	Not applicable	OK	OK
c. Does the letter of approval from DNA of each	VVM	45			OK	OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
Party involved:						
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	Please refer to item (1.b) above.	Not applicable	OK	OK
ii. confirm that participation is voluntary?	VVM	45.b	Please refer to item (1.b) above.	Not applicable	OK	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	Please refer to item (1.b) above.	Not applicable	OK	OK
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	Please refer to item (1.b) above.	Not applicable	OK	OK
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	Please refer to item (1.b) above.	Not applicable	OK	OK
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	Please refer to item (1.b) above.	Not applicable	OK	OK
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	Please refer to item (1.b) above.	Not applicable	OK	OK
g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	Please refer to item (1.b) above.	Not applicable	OK	OK
2. Participation			<i>PP1 (Renova Energia S.A.)</i>	<i>PP2 (Ecopart Assessoria em Negócios Empresariais Ltda.)</i>		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Yes, project participants are: 1. Renova Energia S.A. (Private Entity);	See column to the left	OK	OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			2. Ecopart Assessoria em negócios Empresariais Ltda. (Private Entity);		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	Please refer to item (1.b) above.		
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes, the project participants are listed in tabular form. Please refer to item (2.a) above.	OK	Ok
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	▪ The information in Section A.3 is consistent with the contact details in Annex 1 of the PDD. ▪	▪ K	OK
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	Please refer to item (1.b) above.	▪ K	OK
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No. See also item (1.b) above.	▪ K	OK
g. Has the approval of participation issued from the relevant DNA?	VVM	53	Please refer to item (1.b) above.	▪ K	OK
h. Is there doubt with respect to (g) above?	VVM	53	Please refer to item (1.b) above.	▪ K	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed CDM project participant?	VVM	53	Please refer to item (1.b) above.	▪ K	OK

VALIDATION REPORT



HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
3. Project design document					
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	<p>The template used for preparing the PDD is the latest template: Version 03.0, EB 25, and Annex 15.</p> <p>See Section 3 below for discussions regarding the concordance of the PDD with the applicable guidance (GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), VERSION 07).</p>	OK	OK
b. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Please refer to Section 3 below.	OK	OK
c. In CDM-PDD section A.1 are the following provided?	EB 41	Ann 12			
i. Title of project	EB 41	Ann 12	Yes. "Renova 2010 Wind Parks"		OK
ii. Current version number and date of document	EB 41	Ann 12	Yes. Version 01, dated 16/09/2011.		OK
d. In CDM-PDD section A.2 are following provided (max. one page)?	EB 41	Ann 12			
i. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, present scenario and baseline scenario	EB 41	Ann 12	<p>The PDD version 01, at the Section A.2, didn't described the scenario existing prior to the start of the project nor the baseline scenario, only the present scenario.</p> <p>As per the PDD, "The proposed project activity</p>	CAR 1 CL 1	OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>comprises six wind power plants: Da Prata Wind Power Plant, Dos Araçás Wind Power Plant, Morrão Wind Power Plant, Seraíma Wind Power Plant, Tanque Wind Power Plant, and Ventos do Nordeste Wind Power Plant. These plants comprise a total installed capacity of 162 MW and are better described below in section A.4.3. The plants are expected to become operational in September 2013 and are located at the municipalities of Igaporã, Pindaí, Guanambi and Caetitê, Bahia State, Northeast region of Brazil.”</p> <p>CAR1: The PDD version 01, Section A.2., didn't describe the scenario existing prior to the start of the project, present scenario and baseline scenario, as required by the EB 41 Ann 12.</p> <p>CL1: Please provide a copy from the official schedule informed to ANEEL.</p>		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Explanation on how the GHG emission reductions are effected	EB 41	Ann 12	Yes. According to the PDD: “This indigenous and cleaner source of electricity will also have an important contribution to environmental sustainability by reducing carbon dioxide emissions that would have occurred otherwise in the absence of the project. The project activity reduces emissions of greenhouse gases (GHG) by avoiding electricity generation from fossil fuel sources, which would be generated (and emitted) in the absence of the project.		OK
iii. The PP's vies on the contribution of project activity to sustainable development	EB 41	Ann 12	Yes. The PP listed the following aspects related to the contribution of the project activity to sustainable development: <ul style="list-style-type: none"> - Reducing air pollutants that are emitted from fossil fuel electricity generation from power plants connected to the Brazilian grid; - Creating job opportunities during the project construction, operation and maintenance, improving capacities related to wind farms in Brazil through advanced technology transferred from developed countries; - Efficiently generating electricity, for which there is a growing demand in the country; - Contributing towards national economic 		OK

VALIDATION REPORT



HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			development, adding an Independent Power Producer, leading to energy diversification and creation of additional renewable energy sources;		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No. There are no changes, compared to the webhosted PDD.		OK
e. In CDM-PDD section A.3 are following provided in the tabular format?	EB 41	Ann 12	Yes. All information is given in a tabular form. See below.		OK
i. List of project participants and parties	EB 41	Ann 12	Yes: Renova Energia S.A. (Private Entity); Ecopart Assessoria em negócios Empresariais Ltda. (Private Entity);		OK
ii. Identification of Host Party			Brazil		OK
iii. Indication whether the Party wishes to be considered as project participant	EB 41	Ann 12	The Party (Brazil) does not to wish to be considered as project participant.		OK
f. In CDM-PDD section A.4.1 are following provided?	EB 41	Ann 12			
i. Technical description, location, host party(ies) and address as required	EB 41	Ann 12	Host: Brazil Region/State/Province: Bahia City/Town/Community; Igaporã, Pindaí, Guanambi and Caetité municipalities.		OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 41	Ann 12	According to the PDD: Da Prata Wind Power Plant: Longitude (West): 42°38'15" Latitude (South): 14°24'18"		OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>The DOE confirmed this location by the analysis of the ANEEL (the National Energy Agency) Ordinance #177, dated 25/03/2011, available at: http://www.aneel.gov.br/cedoc/prt2011177mme.pdf</p> <p>Dos Araçás Wind Power Plant:</p> <p>Longitude (West): 42°35'1.918" Latitude (South): 14°28'9.405"</p> <p>The DOE confirmed this location by the analysis of the ANEEL Ordinance #241, dated 07/04/2011, available at: http://www.aneel.gov.br/cedoc/prt2011241mme.pdf</p> <p>Morrão Wind Power Plant:</p> <p>Longitude (West): 42°40'19.882" Latitude (South): 14°9'4.683"</p> <p>The DOE confirmed this location by the analysis of the ANEEL Ordinance #268, dated 20/04/2011, available at: http://www.aneel.gov.br/cedoc/prt2011268mme.pdf</p> <p>Seraíma Wind Power Plant:</p>		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>Longitude (West): 42°36'19.73'' Latitude (South): 14°07'8.871''</p> <p>The DOE confirmed this location by the analysis of the ANEEL Ordinance #332, dated 27/05/2011, available at: http://www.aneel.gov.br/cedoc/prt2011332mme.pdf</p> <p>Tanque Wind Power Plant:</p> <p>Longitude (West): 42°41'45.544'' Latitude (South): 14°10'21.331''</p> <p>The DOE confirmed this location by the analysis of the ANEEL Ordinance #330, dated 26/05/2011, available at: http://www.aneel.gov.br/cedoc/prt2011330mme.pdf</p> <p>Ventos do Nordeste Wind Power Plant:</p> <p>Longitude (West): 42°35'17.1'' Latitude (South): 14°30'30.9''</p> <p>The DOE confirmed this location by the analysis of the ANEEL Ordinance #161, dated 18/03/2011,</p>		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			available at: http://www.aneel.gov.br/cedoc/prt2011161mme.pdf		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No, there are no changes/modifications compared to the webhosted PDD.		OK
g. In CDM-PDD section A.4.2 is the list of categories of project activities provided?	EB 41	Ann 12	Yes: Sectoral Scope: 1 - Energy industries (renewable - / non-renewable sources). Category: Renewable electricity generation for a grid.		OK
h. In CDM-PDD section A.4.3 are following provided?	EB 41	Ann 12			
i. A description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies)	EB 41	Ann 12	<p>CAR2: The PDD V 01, at the Section A.4.3. didn't included:</p> <ul style="list-style-type: none"> - a description of how environmentally safe and sound technology, and know-how to be used, is transferred to the Host Party, - the scenario existing prior to the start of the implementation of the project activity, and - the baseline scenario, - The emissions sources and the greenhouse gases involved in the project activity, <p>as required by EB 41 Annex 12.</p>	CAR 2	OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline scenario	EB 41	Ann 12	Please refer to CAR 2 .		OK
iii. List and arrangement of the main manufacturing/production technologies, systems and equipments involved	EB 41	Ann 12	<p>Yes. According to the PDD:</p> <p>“The project activity consists of the construction of six wind power plants resulting in 162 MW of total installed capacity. The type of turbines to be used by the plants is GE 1.6XLE Wind Turbines Series and all of them were manufactured by General Electric.</p> <p>The quantity of units to be installed in each one of the plants considered in this CDM Project Activity differs.</p> <p>At Da Prata and Ventos do Nordeste Wind Power Plants, there will be 14 units in each site, resulting in a total 22.4MW of installed capacity each; at Dos Araçás, Morrão and Seraíma Wind Power Plants, there will be 19 units in each site, resulting in a total 30MW of installed capacity each; and at Tanque Wind Power Plant 17 units will be installed at the site, resulting in a total 27.2MW of installed capacity.”</p> <p>CL 2: Clarify the in which Section of the related document, can be found origin of the technical</p>	CL 2 CL 3	OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			information on the Table 2. CL 3; The PDD version 01, at the Section A.4.3., states that Morrão and Seraima will have 19 units in each site, resulting in a total 30 MW of installed capacity each. Clarify how it can be, if 19 units with 1.6 MW each results in 30.4 MW.		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iv. The emissions sources and GHGs involved	EB 41	Ann 12	Please refer to CAR 2 .		OK
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No. There are no changes compared to the webhosted PDD.		OK
i. In CDM-PDD section A.4.4 is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	Yes. There is a tabular format, following the model provided at the EB 41 Annex 12.		OK
j. In CDM-PDD section A.4.5 is Information regarding Public funding provided?	EB 41	Ann 12	Yes. It is informed: "This project does not receive any public funding and it is not a diversion of ODA."		OK
k. In CDM-PDD section B.1 are following provided?	EB 41	Ann 12			
i. The approved methodology and version number	EB 41	Ann 12	Approved methodology: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Version 12.1.0).		OK
ii. Any methodologies or tools which the above approved methodology draws upon and their version number	EB 41	Ann 12	The PDD refers to all tools referred in the methodology: Tool to calculate the emission factor for an electricity system (version 2.2.0); Tool for the demonstration and assessment of additionality (version 5.2); <input type="checkbox"/> Tool to calculate project or leakage CO ₂ emissions from fossil fuel combustion (version 2); <input type="checkbox"/> Combined tool to identify the baseline scenario and demonstrate additionality (version 3.0.0). The PDD reports that "The Combined tool to identify the baseline scenario and demonstrate additionality and the Tool to calculate	CL 4	OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>project or leakage CO2 emissions from fossil fuel combustion are not applicable to the project activity, and therefore are not used.”</p> <p>CL 4: Although the versions from the Tool to calculate the emission factor for an electricity system (version 2.2.0) and from the Tool for the demonstration and assessment of additionality (version 5.2) are still valid, the PP are requested to update to the latest version available.</p>		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
I. In CDM-PDD section B.2 are following provided?	EB 41	Ann 12			
i. Justification of the choice of methodology that the project activity meets each of the applicability conditions	EB 41	Ann 12	<p>The PDD Version 01 describes all the applicability conditions of the “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, and how the project meets each of them:</p> <p>“According to this methodology, it is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).</p> <p>The plants considered in this project activity are all greenfield plants corresponding to option (a).</p> <p>The methodology also provides the following conditions:</p> <p><i>The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;</i></p>		OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>The proposed project activity is the installation of six new wind power plants.</p> <p><i>In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter $EG_{PI,y}$): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;</i></p> <p>Not applicable. The proposed project activity does not correspond to a capacity addition, retrofit or replacement.</p> <p>In case of hydro power plants, one of the following conditions must apply:</p> <ul style="list-style-type: none"> o The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or o The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project 		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Emissions section, is greater than 4 W/m ² ; or o The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m ² . Not applicable. The proposed project activity does not correspond to a hydropower plant.		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Documentations with references that had been used. This can be provided in Annex 3 instead	EB 41	Ann 12	<p>Documentation used by the DOE to validate that the project meets the applicability conditions of the ACM0002 V 12.1.0:</p> <ul style="list-style-type: none"> - Main Office site Site visit, and interviews with the PPs, held on on 07, 08 and 09 November 2011; - Localization License # 4115; - Da Prata Wind Power Plant: ANEEL (the National Energy Agency) Ordinance #177; - Dos Araçás Wind Power Plant: ANEEL Ordinance #241; - Morrão Wind Power Plant: ANEEL Ordinance #268; - Seraíma Wind Power Plant: ANEEL Ordinance #332 - Tanque Wind Power Plant: ANEEL Ordinance #330; - Ventos do Nordeste Wind Power Plant: ANEEL Ordinance #161; - Official result of the 3rd Reserve Energy Auction – CCEE; <p>CL 5: The PDD Version 01, reports that Da Prata Wind Power has 22.4 MW, Tanque Wind Farm 27.2 MW and Ventos do Nordeste 22.4 MW, in disagree with the Auction result, which respectively informs 19.5 MW, 24.0 MW and 19.5</p>	CAR 2 CL 5 CL 6	OK



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>MW. Clarify the difference, and provide the necessary evidences.</p> <p>CAR 2:In the PDD V 01, it is informed that the Localization License # refers too to Morrão Wind Power. This License doesn't refer to this Wind Park.</p> <p>CL 6: Provide a copy from the Operational License # 3932.</p>		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
m. In CDM-PDD section B.3 are following provided?	EB 41	Ann 12			
i. Description of all sources and gases included in the project boundary in the table	EB 41	Ann 12	Yes. The boundary is correct described, following the ACM0002, V 12.1.0, and is <i>"the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to."</i> The electricity system is correct described, as being a single grid, according to the National DNA definition. The gas included in this boundary is CO2.		OK
ii. A flow diagram of the project boundary physically delineating the project activity	EB 41	Ann 12	Yes.		OK
iii. The flow diagram with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	Yes, it is a simplified flow.		OK
n. In CDM-PDD section B.4 are following provided?	EB 41	Ann 12			
i. Explanation how the most plausible baselinescenario is identified in accordance with the selected baseline methodology	EB 41	Ann 12	According to the methodology ACM0002, if the project activity is the installation of a new grid-connected renewable power plant/unit (the case of this project activity), the baseline scenario is the following: Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the .Tool to calculate the emission		OK

VALIDATION REPORT



HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			factor foran electricity system. This is correct described in the PDD V01.		



VALIDATION REPORT

HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Justification of key assumptions and rationales	EB 41	Ann 12	The baseline is defined in the methodology ACM0002, and is not necessary present none assumption or rationale.		OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources, etc.)	EB 41	Ann 12	The baseline is defined in the methodology ACM0002, and is not necessary present none assumption or rationale.		OK
iv. A transparent and detailed 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 project activity	EB 41	Ann 12	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 is correct described in the PDD V01.		
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	No, there are no changes compared with the webhosted PDD.		OK
o. In CDM-PDD section B.5 are following provided?	EB 41	Ann 12			
i. Explanation of how and why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology	EB 41	Ann 12	Yes. The PDD followed the Tool for the demonstration and assessment of additionality to demonstrate that the project activity is not a baseline scenario. CL 13: Clarify why the PDD Version 1.0, at the Section B.5., in the identification of alternatives, didn't include other types (e.g.: hydro, biomass, fossil fuel) of power plant with a similar capacity? CL 15: In the PDD Version 1.0, it refers to "Renova 2010". Update, stating the complete name of the project activity.	CAR 8 CAR 9 CL 13 CL 15 CL 16	OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>CL 16: Provide a copy from the following documents:</p> <ul style="list-style-type: none"> - RAS – Environmental Simplified Study - Administrative expenditures <p>Contracts (GE and Civil Works)</p> <p>CAR 8: The PDD Version 1.0, at the Section B.5. refers to the Guidelines in the demonstration and assessment of prior consideration of the CDM, EB 49, Annex 22. This Guidelines has a updated version.</p> <p>CAR 9: The PDD Version 1.0, at the Section B.5. didn't used the Guidelines on Common Practice to demonstrate that the project activity is not common practice.</p>		



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Justification of key assumptions and rationales	EB 41	Ann 12	Yes.		OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources etc)	EB 41	Ann 12	Yes.		OK
iv. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation	EB 41	Ann 12	Yes.		OK
p. In CDM-PDD section B.6.1 are following provided?	EB 41	Ann 12			
i. Explanation as to how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity	EB 41	Ann 12	<p>Yes. The PDD describes the procedures to calculation of:</p> <ul style="list-style-type: none"> - Project Emissions: <p>According to ACM0002, for most renewable power generation project activities, $PE_y = 0$. However, some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation:</p> $PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$ <p>And it is described the emissions, as follows:</p> <p>Emissions from fossil fuel combustion ($PE_{FF,y}$)</p> <p>According to the methodology, only geothermal and solar thermal projects have to account emissions from the consumption of fossil fuels.</p>		OK



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			<p>Therefore, in the case of the proposed project activity, $PEFF,y = 0 \text{ tCO}_2/\text{year}$.</p> <p>Emissions from the operation of geothermal power plants due to the release of non-condensable gases ($PEGP,y$) Considering that the proposed project activity consists on the construction of a wind power plant, there are no emissions related to non-condensable gases from the operation of geothermal power plants. Therefore, $PEGP,y = 0 \text{ tCO}_2/\text{year}$.</p> <p>Emissions from water reservoirs of hydro power plants ($PEHP,y$) New hydro electric power projects resulting in new reservoirs, shall account for CH_4 and CO_2 emissions from reservoirs. Considering that the proposed project activity consists of the construction of a wind power plant, there are no emissions from water reservoirs. Therefore, $PEHP,y = 0 \text{ tCO}_2/\text{year}$.</p> <p>- BaselineEmissions: Baseline emission are calculated as follows:</p> $BE_y = EG_{PJ,y} \times EF_{gridCM,y}$ <p>It is stated that, for Greenfield projects as it is the case of the proposed project activity $EGPJ,y$ is determined as follows.</p>		



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			<p>$EG_{PJ,y} = EG_{facility,y}$</p> <p>$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr).</p> <p>- Leakage emissions:</p> <p>According to the methodology, “no leakage emissions are considered. The main emissions potentially givingrise to leakage in the context of electric sector projects are emissions arising due to activities such as powerplant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, and transport). These emissions sources are neglected”. Therefore, leakage emissions related to the implementation of theproposed project activity are 0 tCO₂.</p> <p>- Emission reductions:</p> <p>According to ACM0002 emission reductions by the proposed project activity are calculated as follows.</p> <p>$ER_y = BE_y - PE_y$.</p>		

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ii. Equations used in calculating emission reductions	EB 41	Ann 12	Yes. Please refer to the question above.		OK
iii. Explanation and justification for all relevant methodological choices, including different scenarios or cases, options and default values	EB 41	Ann 12	Yes.		OK
q. In CDM-PDD section B.6.2 are following provided?	EB 41	Ann 12			
i. A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period AND that are available when validation is undertaken	EB 41	Ann 12	Yes. The PP decided to calculate the grid emission factor ex ante, and thus, the related parameter are stated in this Section.		OK
ii. The actual value period	EB 41	Ann 12	Yes.		OK
iii. Explanation and justification for the choice of the source of data	EB 41	Ann 12	Yes.		OK
iv. Clear and transparent references or additional documentation in Annex 3	EB 41	Ann 12	No. This Section is left in blank.		OK
v. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results	EB 41	Ann 12	The measured value is the net electricity generated by the power plants connected to the grid (to the EF calculation), and it is informed that Data from the Electric System National Operator (Official Sources) was used.		OK
r. In CDM-PDD section B.6.3 are following provided?	EB 41	Ann 12			
i. A transparent ex ante calculation of project	EB	Ann	Yes, this Section presents a transparent ex ante		



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emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology	41	12	<p>calculation. The EF calculation is supported by a excel spreadsheet.</p> <p>CAR 3: The PDD V01, at the Section B.6.3., states that the net energy generation of the Power plants is:</p> <p>Da Prata: 91,833 MWh/y Dos Araçás: 135,289 MWh/y Morrão: 139,902 MWh/y Seraíma: 142,464 MWh/y Tanque: 122,430 MWh/y Ventos do Nordeste: 109,625 MWh/y</p> <p>This is in disagree with the informed in the Optimized Wind Studies, with the discount of 2.5% with transmission losses.</p> <p>Da Prata: 94,3 GWh/y Dos Araçás: 139,0 GWh/y Morrão: 143,7 GWh/y Seraíma: 146,3 MWh/y Tanque: 125,8 MWh/y Ventos do Nordeste: 112,5 MWh/y</p> <p>CAR 4: The PDD V 01, at the Section B.6.3., adopted the EF grid, BM, $y = 0.1164 \text{ tCO}_2\text{e/MWh}$, in disagree with the presented in the support spreadsheet.</p>	CAR 03 CAR 04	OK

VALIDATION REPORT

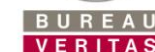


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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	Yes.		OK
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	The PP included background information, in the spreadsheet "BR EF ex ante 2008 to 2010-def EF tool 2.2-2011.10.06"		OK
s. In CDM-PDD section B.6.4 are the results of the <i>ex ante</i> estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	Yes. The result is provided in a tabular form, following the related form.		OK
t. In CDM-PDD section B.7.1 are following provided?	EB 41	Ann 12			
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 41	Ann 12	Yes. The only monitored parameter is the $EG_{facility,y}$ for every Wind Power Plant.		
ii. For each parameter the following below information, using the table provided:	EB 41	Ann 12			
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data sources should be preferred.	EB 41	Ann 12	Yes. "Documented evidence from the local power utility or CCEE – Câmara de Comercialização de Energia Elétrica, a Brazilian governmental entity which monitors the quantity of electricity in the national interconnected grid."		OK
b. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international	EB 41	Ann 12	"The quantity of electricity delivered to the grid by the project will be quantified through the energy meter located at the substation. The monitoring of this parameter will be conducted separately for each plant."		OK



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standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.			"Energy metering QA/QC procedures are explained in section B.7.2 (the equipments used have by legal requirements extremely low level of uncertainty –0.2 precision class). In addition, there will be another meter at the substation (backup) to ensure that electricity will be properly measured."		
u. In CDM-PDD section B.7.2 are following provided?	EB 41	Ann 12			
i. A detailed description of the monitoring plan	EB 41	Ann 12	<p>Yes. The Section describes the details of the monitoring plan, which will follow the procedures established by the Electric System national Operator.</p> <p>CL 7: Clarify the relevance of both latest paragraph of this Section, which discourse about environment.</p> <p>CL 17: Include in the PDD the information that the data will be kept at least for 2 years after the end of the latest crediting period.</p>	CL 7 CL 17	OK
ii. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage	EB 41	Ann 12	Yes. The company that owns the wind farms will be the responsible for data collection and archiving as well as the calibration and		OK



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effects generated by the project activity			maintenance of the monitoring equipment, for dealing with possible monitoring data adjustments and uncertainties, review of reported results/data, internal audits of GHG project compliance with operational requirements and corrective actions. Also, it is responsible for the project management, as well as for the organising and training of the staff in the appropriate monitoring, measurement and reporting techniques.		
iii. The responsibilities for and institutional arrangements for data collection and archiving	EB 41	Ann 12	Yes.		OK
iv. Indication that the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 41	Ann 12	The Monitoring Plan reflects good monitoring practice, appropriate to this type of project activity.		OK
v. Relevant further background information in Annex 4	EB 41	Ann 12	Annex 4 is intentionally left in blank.		OK
v. In CDM-PDD section B.8 are following provided?	EB 41	Ann 12			
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 41	Ann 12	Yes. 25/02/2011		OK
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 41	Ann 12	Yes: Name of person/entity determining the baseline: Company: Ecopart Assessoria em Negócios Empresariais Ltda. Address: Rua Padre João Manoel, 222		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Zip code + city: 01411-000 São Paulo Country: Brazil Telephone number: +55 (11) 3063-9068 Fax number: +55 (11) 3063-9069 E-mail: info@eqao.com.br		



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iii. Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	CAR 5: The PDD Version 01, at the Section B.8. didn't indicated if the person/entity is also a project participant listed in Annex 1, as required by the EB 41 Annex 12.	CAR 5	OK
w. In CDM-PDD section C.1.1 are following provided?	EB 41	Ann 12			
i. The starting date of a CDM project activity, which is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	EB 41	Ann 12	<p>Yes. 26 August 2010. According to the PDD:</p> <p>Electricity to be supplied by the plants was negotiated in the Third Reserve Energy Auction for Renewable Sources. This public tender was conducted by CCEE on 26 August 2010. The contracts deriving from this auction would be signed only after approximately 8 months from the tender. However, before entering the sale, the company had signed a MoU with the equipment supplier, which would be valid as of the date of the auction if the electricity of the plants was negotiated. Therefore, the date of the auction – representing the date when the contract for equipment supply turned valid - will be considered as the starting date of the project, i.e. 26 August 2010. Before this date, neither significant expenditures were made nor have relevant contracts been signed.</p> <p>Also, the construction of the wind farms is scheduled to begin by the end of 2011.</p>	CL 8	OK

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			CL 8: Provide a copy from the MoU and a schedule of the works.		



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ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 41	Ann 12	Yes. Please refer to the question above.		OK
iii. If this starting date is earlier than the date of publication of the CDM-PDD for global stakeholder consultation by a DOE, description in Section B.5 contain a of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).	EB 41	Ann 12	<p>The starting date (26 August 2010) is earlier to the publication of the CDM-PDD for GSC (05 Oct 11 – 03 Nov 11). The PP send to the UNFCCC the F-CDM-Prior consideration, dated 21/01/11 and to the DNA a letter informing the intention to seek CDM status, in the same date.</p> <p>CL 9: Clarify the reason of the change in one of the cities listed in the UNCFF Form (Licínio de Almeida),as the actual location presented in the PDD V 01 (Igaporã)</p>	CL 9	OK
x. In CDM-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 41	Ann 12	<p>Yes. CL10: The PDD Version 01, at the Section C.1.2. states that the operational lifetime of the project activity is 25y – 0m. Give the reference to this information.</p>	CL 10	OK
y. In CDM-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and is C.2.1 or C.2.2 completed accordingly?	EB 41	Ann 12	CAR 6: The PDD Version 1.0,at the Section C.2., didn't inform whether the project activity will use a renewable or a fixed crediting period, nor completed accordingly the Sections C.2.1. or C.2.2.	CAR 6	OK
z. In CDM-PDD section C.2.1 is it indicated that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational	EB 41	Ann 12	CAR 7: The PDD Version 1.0, at the Section C.2.1. didn't indicated hat each crediting period shall be at most 7 years and may be renewed at most two times,	CAR 7	OK



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entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?					
aa. In CDM-PDD section C.2.1.1 are dates in the following format: (DD/MM/YYYY) provided?	EB 41	Ann 12	Yes. 01/09/2013		OK
bb. In CDM-PDD section C.2.1.2 is the length of the first crediting period in years and months provided?	EB 41	Ann 12	Yes. 7y – 0m		OK
cc. In CDM-PDD section C.2.2 is the fixed crediting period at most ten (10) years provided?	EB 41	Ann 12	Not applicable.		OK
dd. In CDM-PDD section C.2.2.1 are the dates provided in the following format: (DD/MM/YYYY)?	EB 41	Ann 12	Not applicable.		OK
ee. In CDM-PDD section C.2.2.2 is the length of the crediting period in years and months Provided?	EB 41	Ann 12	Not applicable.		OK
ff. In CDM-PDD section D.2 are the conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, provided?	EB 41	Ann 12	<p>CL 11: Clarify the national laws related to environmental impacts study, and include in the PDD a brief comment.</p> <p>CL 14: The PDD Version 1.0, refers to the Environmental Agency involved in the project as INEMA and IMA. Clarify which is the current name, and update the document.</p>	CL 11 CL 14	OK
gg. In CDM-PDD section E.1 are the following provided?	EB 41	Ann 12			
i. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and	EB 41	Ann 12	CL 12: Provide a copy from all the invitations for comment (postal receipts) sent to the stakeholders, as defined in the DNA Resolution # 7.	CL 12	OK



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transparent manner, in a way that facilities comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.					
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.	EB 41	Ann 12	Yes.		OK
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Yes.		OK
hh. In CDM-PDD section E.2 are following provided?	EB 41	Ann 12			
i. Identification of local stakeholders that have made comments	EB 41	Ann 12	According to the PP, no comments have been received.		OK
ii. A summary of this comments.	EB 41	Ann 12	Not applicable.		OK
ii. In CDM-PDD section E.3 is the explanation of how due account have been taken of comments received from local stakeholders provided?	EB 41	Ann 12	Not applicable.		OK
jj. In CDM-PDD Annex 1 are the following provided?	EB 41	Ann 12	Yes.		OK
i. Contact information of project participants	EB 41	Ann 12	Yes.		OK
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 41	Ann 12	Yes.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
kk. In CDM-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 41	Ann 12	It is informed that no public funding is involved in this project.		OK
ll. In CDM-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 41	Ann 12	No. It is intentionally left in blank.		OK
mm. In CDM-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	No. It is intentionally left in blank.		OK
4. Project description					
a. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	Yes. Yes, in Section A.2 and in Section A.4.3, the PDD provides a clear description of the project activity and the technical aspects of its implementation: According to the PDD, the proposed project activity comprises six wind power plants: Da Prata Wind Power Plant, Dos Araçás Wind Power Plant, Morrão Wind Power Plant, Seraíma Wind Power Plant, Tanque Wind Power Plant, and Ventos do Nordeste Wind Power Plant. These plants comprise a total installed capacity of 162 MW and are better described below in section A.4.3. The plants are expected to become operational in September 2013 and are located at the municipalities of Igaporã, Pindaí, Guanambi and		OK



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			Caetité, Bahia State, Northeast region of Brazil.		



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b. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59			
i. sufficiently covering all relevant elements?	VVM	59	Yes. To detailed discussion, please refer to Section 3.		OK
ii. accurate?	VVM	59	Yes. To detailed discussion, please refer to Section 3.		OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Yes. To detailed discussion, please refer to Section 3.		OK
iv. Are there any changes/modifications compared to the webhosted PDD?	VVM	59	No, there are no changes compared to the webhosted PDD.		OK
c. Is the proposed CDM project activity in existing facilities or or utilizing existing equipments?	VVM	60	No, the proposed project activity is a Greenfield project activity, consisting in six Wind Plants with 162 MW of installed capacity.		OK
d. Is the CDM project activity one of the following types:	VVM	60			
i. Large scale?	VVM	60	Yes. It is a large scale project, following the methodology ACM0002.		OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	No. The project is a large scale project activity.		OK
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	No. The project is a large scale project activity.		OK
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	No. The project is a large scale project activity.		OK



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f. If yes to (d.iii) above, was the number of physical site visits base on samping?	VVM	60	No. The project is a large scale project activity.		OK
g. If yes is the sampling size appropriately justifiedthrough statistical analysis?	VVM	60	No. The project is a large scale project activity.		OK
h. For other individual proposed small scale CDM project activities with emission reductions notexceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	61	No. The project is a large scale project activity.		OK
i. For all other proposed CDM project activities notreferred to in paragraphs 59 – 61, was a physical site inspection conducted?	VVM	62	Yes. A site vsit was conducted on November, 07 th , 08 th and 09 th , 2011. As in this date, there was not construction in the sites, the site visit was conducted in the Main Office of Renova.		OK
j. If no, was it appropriately justified?	VVM	62	Not Applicable.		OK
k. Does the proposed CDM project activity involve thealteration of an existing installation or process?	VVM	63	No, the proposed project activity is a Greenfield project activity, consisting in six Wind Plants with 162 MW of installed capacity.		OK
l. If yes, does the project description clearly state the differences resulting from the projectactivity compared to the pre-project situation?	VVM	63	No, the proposed project activity is a Greenfield project activity, consisting in six Wind Plants with 162 MW of installed capacity.		OK
5. Baseline and monitoring methodology					
a. General requirement					
a. Do the the baseline and monitoringmethodologies selected by the projectparticipants comply with the methodologies previouslyapproved by the CDM Executive Board?	VVM	65	Yes. The project adopted the methodology ACM0002 V 12.1.0 - Consolidated baseline methodology for grid-connectedelectricity generation from		OK

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			renewable sources.		



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b. Is the selected methodology applicable to the project activity?	VVM	66	Refer to (5.b.a) below	-	-
c. Had the PP correctly applied the selected methodology?	VVM	66	Refer to (5.b.d) below	-	-
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Refer to (5.c) below	-	-
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Refer to (5.d) below	-	-
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Refer to (5.e) below	-	-
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Please refer to item (6) below: Additionality of a project activity		OK
i. Has the additionality of the project activity been demonstrated and assessed using the latest version of the "Tool for the demonstration and assessment of additionality" agreed by the Board, which is available on the UNFCCC website?	ACM	0002 v.11	Please refer to CL 4 .		OK
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Refer to (7.g), (7.h), (7.i), (7.j) and (7.k) below		OK
<i>b. Applicability of the selected methodology to the project activity</i>					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity? Is the used version valid?	VVM	68	Yes. The selected baseline and monitoring methodology is applicable to the project activity. The Project meets all applicability conditions. The methodology is ACM0002 V 12.1.0, the latest available:		OK



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			http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L		



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plants); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	ACM	0002	Yes. The project activity is a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant).		OK
b. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	<p>Yes, the following guidance were applied:</p> <p>Methguide04: Clarifications on how, through the methodology, it may be demonstrated that a project is additional and therefore not the baseline scenario.</p> <p>Methguide 31: guidance related to use of additionality tool</p> <p>Methguide 35: Guidelines for the reporting and validation of plant load factors.</p> <p>Regguide03: Guidelines on the assessment of investment analysis.</p> <p>Regguide04: Guidelines on the demonstration and assessment of prior consideration of the CDM.</p>		OK



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c. Is the methodology correctly quoted?	VVM	70	Yes. "Consolidated baseline methodology for grid connected electricity generation from renewable sources" version 12.1.0.		
d. Are the applicability conditions of the methodology met?	VVM	71			
i. The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit	ACM	0002	Yes, the proposed project activity is a Greenfield project activity, consisting in six Wind Plants with 162 MW of installed capacity.		OK
ii. In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter $EG_{PJ,y}$): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the	ACM	0002	This is not the case of this project activity.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project activity.					
iii. In case of hydro power plants, one of the following conditions must apply: - The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or - The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m ² ; or - The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m ² .	ACM	0002	This is not the case of this project activity.		OK
iv. The methodology is not applicable to the following conditions. Please confirm - Project activities that involve switching from fossil fuels 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 4 W/m ² .	ACM	0002	This is not the case of this project activity.		OK
v. In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline	ACM	0002	This is not the case of this project activity.		OK



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scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.					
e. Is the project activity expected to result in emissions other than those allowed by the methodology?	VVM	71	No, the project activity doesn't expect to result in emissions other than those allowed by the methodology.		OK
f. Is the choice of the methodology justified?	VVM	71	Yes.		OK
g. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	71	Refer to (5.b.d) above	-	-
h. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	71	Yes. Please refer to Section 3 above.		OK
i. Are each of the applicability conditions of the “Tool to calculate the emission factor for an electricity system” met?	EB 50	Ann 40	Yes.		OK
ii. Are each of the applicability conditions of the “Tool for the demonstration and assessment of additionality” met?	EB 39	Ann 10	Yes.		OK
iii. Are each of the applicability conditions of the “Combined tool to identify the baseline scenario and demonstrate additionality” met?	EB 28	Ann 14	This Tool was not applied to this project activity.		OK
iv. Are each of the applicability conditions of the “Tool to calculate project or leakage CO ₂ ” met?	EB 41	Ann 11	This Tool was not applied to this project activity.		OK



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emissions from fossil fuel combustion” met?					
i. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	71	Yes, see below:		OK
j. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	71	Yes, the PDD was cross checked to other sources as: <ul style="list-style-type: none"> - Data Sheets from the Wind Parks; - Environmental Licenses; - ANEEL Resolutions. 		OK
k. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	Yes. The methodology is applicable to this project activity.		OK
l. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	Not applicable.		OK
m. If answer to (5.b.d) above is “no”, revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	73	Not applicable.		OK
n. If yes to (5.b.l) and (5.b.m) above, a request for registration was submitted before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	Not applicable.		OK
c. Project boundary					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within	VVM	78	See Section 3 above for a discussion regarding project boundary.		OK



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the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?					
i. Does the extent of the project boundary, as described in the PDD, include the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to?	ACM	0002	Yes. According to the PDD: "According to ACM0002, the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to."		OK
ii. Are the greenhouse gases and emission sources that are included in or excluded from the project boundary shown in a table format as per applicable methodology?	ACM	0002	Yes.		OK
b. Is the delineation in the PDD of the project boundary correct and include identification of all locations, processes and equipment including secondary equipment and associated processes such as logistics etc.?	VVM	79	In case of this project, it is included the Wind farms, the substation, and the National Grid.		OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	79	Yes.		OK
d. Have changes been made to the project boundary in comparison to the webhosted PDD. If yes please comment on the reason for the changes.	VVM	79	No. There are no changes in comparison with the webhosted PDD.		OK
e. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	79	Yes. The main source is the "CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity."		OK



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f. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary	VVM	79	No, the methodology prescribes which gases are to be included in the project boundary.		OK
g. If yes, have the project participants justified that choice?	VVM	79	Not applicable.		OK
h. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	79	Not applicable.		OK
d. Baseline identification					
a. Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	81	Yes. According to the PDD: "The project activity is the installation of six new grid-connected renewable power plants. Therefore, according to ACM0002, the baseline scenario is the following: <i>"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations as described in the "Tool to calculate the emission factor for an electricity system".</i> "		OK
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	82	No procedure is to be applied to this kind of project activity, according to the methodology.		OK
i. If the project activity is the install a new grid-connected renewable power plant/unit (greenfield plant), is the baseline scenario	ACM	0002	Yes.		OK



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identified appropriately in accordance with the ACM0002 ver.11?					
ii. If the project activity is a capacity addition to existing grid-connected renewable power plant/unit, is the baseline scenario identified appropriately in accordance with the ACM0002 ver. 11? And is the point of time at which the generation facility would likely be replaced or retrofitted (DATE Baseline Retrofit) reasonably defined?	ACM	0002	The project activity is not a capacity addition.		OK
iii. If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit, is the baseline scenario identified following the step-wise procedure in accordance with the ACM0002 ver.11?	ACM	0002	The project activity is not a retrofit or replacement.		OK
iv. Are the realistic and credible alternative baseline scenarios for power generation appropriately identified following the Step 1 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 1)	ACM	0002	Not applicable. The project is a Greenfield plant.		OK
v. Are the realistic and credible alternative baseline scenarios i.e. P1, P2 and P3 appropriately applied Barrier analysis following the Step 2 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 2)	ACM	0002	Not applicable. The project is a Greenfield plant.		OK
vi. If more than one alternative is remaining after	ACM	0002	Not applicable. The project is a Greenfield plant.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
Step 2, is Investment analysis appropriately applied (apply an Investment Comparison as per step 3 of the “Combined tool to identify the baseline scenario and demonstrate additionality” or a Benchmark Analysis as per step 2b of the “Tool for the demonstration and assessment of additionality”)? (Step 3)					
c. Does the selected methodology require use of tools (such as the “Tool for the demonstration and assessment of additionality” and the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario?	VVM	82	Not applicable. The project is a Greenfield plant.		OK
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	82	Not applicable. The project is a Greenfield plant.		OK
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	Not applicable. The project is a Greenfield plant.		OK
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM project activity?	VVM	83	Not applicable. The project is a Greenfield plant.		OK
g. Has any reasonable alternative scenario been excluded?	VVM	83	Not applicable. The project is a Greenfield plant.		OK
h. Is the baseline scenario identified reasonably supported by:	VVM	84			
i. Assumptions?	VVM	84	The project activity is a installation of six wind		OK

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			farms. The baseline scenario is provided by the methodology.		



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ii. Calculations?	VVM	84	The project activity is a installation of six wind farms. The baseline scenario is provided by the methodology.		OK
iii. Rationales?	VVM	84	The project activity is a installation of six wind farms. The baseline scenario is provided by the methodology.		OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	84	Yes.		OK
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	84	Yes. - Environmental License, - Energy Auction results, - ANEEL licenses; - CIMGC website.		OK
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	85	The project activity is a installation of six wind farms. The baseline scenario is provided by the methodology.		OK
l. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	85	The project activity is a installation of six wind farms. The baseline scenario is provided by the methodology.		OK
m. Does the PDD provide 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?	VVM	86	No, it is not required by the relevant methodology.		OK
e. Algorithms and/or formulae used to					



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determine emission reductions					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	89	Yes. The steps comply with the requirements of the methodology ACM0002. Please refer to Section 3.		OK
b. Have the equations and parameters in the PDD been correctly applied with respect to those in the selected approved methodology?	VVM	90	Yes. The equations and parameters were correctly applied, with respect to the methodology ACM0002. Please refer to Section 3.		OK
i. Are the Project emissions appropriately calculated?	ACM	0002	Yes. Please refer to Section 3.		OK
ii. Are the Baseline emissions appropriately calculated specifically for (a) greenfield plants or (b) retrofit and replacements or (c) capacity additions?	ACM	0002	Yes. The project is a Greenfield project, and the baseline emissions are appropriately calculated.		OK
iii. Are the Leakage appropriately calculated?	ACM	0002	No leakage are to be considered according to the methodology ACM0002.		OK
iv. Are the Emission reductions appropriately calculated?	ACM	0002	Yes.		OK
c. Have project participants prepared as part of the CDM-PDD an estimate of likely emission reductions for the proposed crediting period? This estimate should, in principle, employ the same methodology as selected for the calculation of emission reductions. Where the grid emission factor (EF _{CDM,grid,y}) is determined ex post during monitoring, project participants may use models or other tools to estimate the emission reductions	ACM	0002	Yes. However, the calculation of the grid emission factor presented some minor errors. Please refer to Section 3.		OK



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prior to validation.					
d. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	Yes, depending on the type of project activity. The project correctly adopted the equation related to Greenfield projects.		OK
e. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	90	Yes.		OK
f. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	90	Refer to (5.e.b) above	-	-
g. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	91	Yes. The monitored data is the energy delivered to the grid, $EG_{facility,y}$		OK
h. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91			
i. Appropriate and correct?	VVM	91	The fixed parameter is the EF CM, and some minor errors were found in the calculation. Refer to Section 3.		OK
ii. Applicable to the proposed CDM project activity?	VVM	91	Yes.		OK
iii. Resulting in a conservative estimate of the emission reductions?	VVM	91	Yes.		OK
i. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	Yes.		OK
j. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	91	Yes.		OK



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6. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM project activity is additional?	VVM	94	Yes. The PDD, at the Section B.5. provides by mean an investment analysis, following the Tool for the demonstration and assessment of additionality, an explanation of the project additionality.		OK
b. Does the CDM-PDD state the latest version of the additionality tool being used?	ACM	0002	No. Please refer to Section 3.		OK
c. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10			
i. Identification of alternatives to the project activity?	EB 39	Ann 10	Yes, see item (6.d) below.		OK
ii. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	Yes, see item (6.l) below.		OK
iii. Barriers analysis?	EB 39	Ann 10	Yes, see item (6.t) below.		OK
iv. Common practice analysis?	EB 39	Ann 10	Yes, see item (6.y) below.		OK
d. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Yes. Identified alternatives are: Scenario 1: continuation of the current (previous) situation of electricity supplied by the Brazilian Interconnected Grid. Scenario 2: The proposed project activity undertaken without being registered as a CDM		OK

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			project activity. Please refer to section 3 above.		



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ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Yes.		OK
e. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10			
i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Yes.		OK
ii. (b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	EB 39	Ann 10	No, Please refer to Section 3 above.		OK
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Yes.		OK
f. Has the project participant included the technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	EB 39	Ann 10	No. See Section 3 above.		OK
g. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	The PDD identified as alternatives: Scenario 1: continuation of the current (previous) situation of electricity supplied by the Brazilian Interconnected Grid. Scenario 2: The proposed project activity		OK



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			undertaken without being registered as a CDM project activity., And concludes that both are in compliance with regulatory requirements.		



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h. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Yes.		OK
i. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	There are no alternatives which do not comply with applicable legislation and requirements.		OK
j. Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	Yes. The outcome is: Scenario 1: continuation of the current (previous) situation of electricity supplied by the Brazilian Interconnected Grid. Scenario 2: The proposed project activity undertaken without being registered as a CDM project activity.		OK
k. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	The PP selected Step 2 – Investment Analysis.		OK
l. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10			
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK



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ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	Not applied. Please refer to Section <i>Investment Analysis</i> , below.		OK
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	Not applied. Please refer to Section <i>Investment Analysis</i> , below.		OK
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK
v. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK
m. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK
i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
ii. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
n. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step 1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
o. Has the below guideline followed for sub-step 2b	EB	Ann	Please refer to Section <i>Investment Analysis</i> ,		OK



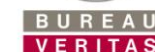
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Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify	39	10	below.		
p. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
ii. When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
iii. Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK



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cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.					
q. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
i. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK



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(excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.					
ii. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
iii. Justify and/or cite assumptions.	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	Please refer to Section <i>Investment Analysis</i> , below.		OK
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK
vi. Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity. Please specify details for above.	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK
r. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK



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reasonable variations in the critical assumptions.					
s. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Yes. Please refer to Section <i>Investment Analysis</i> , below.		OK
t. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
ii. Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
u. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
i. (a) Investment barriers: For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
ii. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK



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the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.					
iii. (c) Barriers due to prevailing practice: The project activity is the “first of its kind”.	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
v. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
w. Has the below guideline followed for Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
i. If the identified barriers also affect other alternatives, explain how they are affected less	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK



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strongly than they affect the proposed CDM project activity. In other words, demonstrate that the identified barriers do not prevent the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.					
ii. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
iii. The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc; (c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariffs, rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities, technical schools, training centres), industry	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK



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associations and others. Please specify.					
x. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	The additionality of the project activity is not demonstrated by barriers.		OK
y. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10			
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	Yes. However, the PP didn't followed the Guidelines on Common Practice. Refer to Section 3.		OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Yes.		OK
z. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	Yes. However, the PP didn't followed the Guidelines on Common Practice. Refer to Section 3.		OK
aa. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the	EB 39	Ann 10	Yes. However, the PP didn't followed the Guidelines on Common Practice. Refer to Section 3.		OK



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proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.					
bb. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Yes. However, the PP didn't followed the Guidelines on Common Practice. Refer to Section 3.		OK
cc. Has it been proved that the porject is additional?	EB 39	Ann 10	There are still pending issues to demonstrate that the project is additional.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
<i>a. Prior consideration of the clean development mechanism</i>					
a. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	98	Yes. The Starting date is 26 Aug 2010. The PDD was public for comments from 05 Oct 11 - 03 Nov 11, and the Starting date is 26 Aug 2010.		OK
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	98	Yes. The PP sent to UNFCCC and to DNA communication regarding the intention to seek CDM status. Please refer to Section 3.		OK
c. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins."?	VVM	99	Yes. The Starting date is the earliest date at which either the implementation or construction or real action began. In this case, a real action, is defined as the Starting Date, the commitment with the implementation.		OK
d. Does the project activity require construction, retrofit or other modifications?	VVM	99	The Project activity requires construction of 6 Wind farms.		OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	Yes.		OK
f. Is it a new project activity (a project activity with a start date on or after 02 August 2008) or an existing project activity (a project activity with a start date before 02 August 2008)?	VVM	100	It is a new project activity.		OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a	VVM	101	Yes.		OK



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new methodology proposed to the CDM Executive Board before the project activity start date, had PPs informed the host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status? (Provide reference to such confirmation from host Party DNA and UNFCCC secretariat).					
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	102	Not applicable.		OK
ii. 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, including, inter alia:	VVM	102	Not applicable.		OK
a. minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM project activity?	VVM	102	Not applicable.		OK
iii. 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, including, inter alia:	VVM	102	Not applicable.		OK
a. contract with consultants for CDM/PDD/methodology services?	VVM	102	Not applicable.		OK



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b. Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	102	Not applicable.		OK
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	102	Not applicable.		OK
d. submission of a new methodology to the CDM Executive Board?	VVM	102	Not applicable.		OK
e. publication in newspaper?	VVM	102	Not applicable.		OK
f. interviews with DNA?	VVM	102	Not applicable.		OK
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	102	Not applicable.		OK
h. Has the chronology of events including time lines been appropriately captured and explained/detailed in the PDD?	VVM	102	Not applicable.		OK
b. Identification of alternatives					
a. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	105	Yes. The methodology ACM0002 prescribes the baseline scenario, and no further analysis is required.		OK
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	105	Not applicable. The methodology ACM0002 prescribes the baseline scenario, and no further analysis is required.		OK
c. Does the list of alternatives given in the PDD ensure that:	VVM	106			
i. the list of alternatives includes as one of the	VVM	106	Not applicable. The methodology ACM0002 prescribes		



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optionsthat the project activity isundertaken without being registered as a proposed CDM project activity?			the baseline scenario, and no further analysis is required.		OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local andsectoral knowledge, considers to be viable means ofsupplying the outputs or servicesthat are to be supplied by the proposed CDM project activity?	VVM	106	Not applicable. The methodology ACM0002 prescribes the baseline scenario, and no further analysis is required.		OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	106	Not applicable. The methodology ACM0002 prescribes the baseline scenario, and no further analysis is required.		OK
c. Investment analysis					
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	108	Yes.The proposed project activity used the investment analysis to demonstrate the additionality.		OK
b. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	108	See Below.		OK
i. the most economically or financially attractive alternative?	VVM	108	Not Applicable.		NA
ii. economically or financially feasible, without the revenue from the sale of certifiedemission reductions (CERs)?	VVM	108	Yes. The PDD and the spreadsheet demonstrate that the project is not attractive without the revenue from the sale of certified emission reductions (CERs)		OK
c. Was this shown by one of the following approaches?	VVM	109	See Below.		OK
i. The proposed CDM project activitywould produce no financial oreconomic benefits other than CDM-related income. Document	VVM	109	Not Applicable.		NA



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the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity.					
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	109	Not Applicable		NA
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	109	Yes. The PP demonstrated in the spreadsheet that the financial returns of the proposed CDM project activity are insufficient to justify the required investment.		OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 61	Ann 13	No.		OK
e. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 61	Ann 13	CAR BQA 1 – According to the Guidelines on the Assessment of Investment Analysis version 5, “The period of assessment should not be limited to the proposed crediting period of the CDM project activity. Both project IRR and equity IRR calculations shall as a preference reflect the period of expected operation of the underlying project activity (technical lifetime), or . if a shorter period is chosen . include the fair value of the project activity assets at the end of the assessment period”. Provide evidences to support the period of expected operation used in the investment analysis.	CAR BQA 1	OK



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f. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 61	Ann 13	Yes. The Spreadsheet contains the costs of major maintenance through the O&M costs.		OK
g. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 61	Ann 13	Yes.		OK
h. Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 61	Ann 13	Please, Refer to CAR BQA 1.	CAR BQA 1	OK
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 61	Ann 13	Please, Refer to CAR BQA 1.	CAR BQA 1	OK
j. Does the fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB 61	Ann 13	Please, Refer to CAR BQA 1.	CAR BQA 1	OK
k. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 61	Ann 13	Yes.		OK
l. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other financial indicator is intended for post-tax comparisons?	EB 61	Ann 13	Yes, it has been included.		OK



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m. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 61	Ann 13	CL BQA 1 – Clarify with evidences the moment of investment decision, in order to guarantee that the input values are the correct ones at this moment in the project chronology.	CL BQA 1	OK
n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 61	Ann 13	Refer to the CL BQA 1.	CL BQA 1	OK
o. Are all the listed input values been consistently applied in all calculations?	EB 61	Ann 13	Yes.		OK
p. Does the investment analysis reflect the economic decision making context at point of the decision to recommence the project in the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM?	EB 61	Ann 13	Not Applicable.		NA
q. Have project participants supplied the spreadsheet versions of all investment analysis?	EB 61	Ann 13	Yes.		OK
r. Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 61	Ann 13	Yes. All formulas and cells are viewable and could be verified by de DOE.		OK
s. In cases where the project participant does not wish to make such a spreadsheet available to the public has the PP provided an exact read-only or PDF copy for general publication?	EB 61	Ann 13	Not Applicable.		NA
t. In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 61	Ann 13	Not Applicable.		NA
u. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the	EB 61	Ann 13	Not applicable.		NA



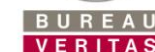
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calculation of project IRR?					
v. In the calculation of equity IRR, has only the portion of investment costs which is financed by equity been considered as the net cash outflow?	EB 61	Ann 13	Yes.		OK
w. Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calculation of equity IRR? (this is not allowed)	EB 61	Ann 13	No.		OK
x. Was a pre-tax benchmark be applied?	EB 61	Ann 13	CAR BQA 2 – Clarify whether a post-tax or pre-tax benchmark was used.	CAR BQA 2	OK
y. Incases where a post-tax benchmark is applied, is actual interest payable taken into account in the calculation of income tax?	EB 61	Ann 13	Refer to CAR BQA 2.	CAR BQA 2	OK
z. In such situations, was interest calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years?	EB 61	Ann 13	Refer to CAR BQA 2.	CAR BQA 2	OK
aa. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 61	Ann 13	Refer to CAR BQA 2.	CAR BQA 2	OK
bb. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 61	Ann 13	Refer to CAR BQA 2.	CAR BQA 2	OK
cc. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 61	Ann 13	CL BQA 2 – Explain the suitability of the beta used in the calculation of the benchmark. And why it was not used the value suggested in the EB 62	CL BQA 2	OK

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			annex 5.		



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dd. In case benchmarks supplied by relevant national authorities selected is it applicable to the project activity and the type of IRR calculation presented?	EB 61	Ann 13	Not Applicable.		NA
ee. In the cases of projects which could be developed by an entity other than the project participant is the benchmark applied based on parameters that are standard in the market?	EB 61	Ann 13	Yes.		OK
ff. Whether a company-specific benchmark or a benchmark based on parameters that are standard in the market is suitable in the context of the underlying project activity?	EB 61	Ann 13	Not Applicable.		NA
gg. Have internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC) been applied in cases where there is only one possible project developer?	EB 61	Ann 13	Not Applicable.		NA
hh. In such cases, have these values been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 61	Ann 13	Not Applicable.		NA
ii. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 61	Ann 13	Not Applicable.		NA
jj. Has a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past	EB 61	Ann 13	Not Applicable.		NA



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financial behavior of the entity during at least the last 3 years in relation to similar projects been conducted?					
kk. If the benchmark is based on parameters that are standard in the market, is the cost of equity determined either by: (a) selecting the values provided in Appendix A; or by (b) calculating the cost of equity using best financial practices, based on data sources which can be clearly validated by the DOE, while properly justifying all underlying factors?	EB 61	Ann 13	Refer to CAR BQA 2.	CAR BQA 2	OK
ll. If a company internal benchmark is used, are the values in the table in Appendix A used, as a simple default option?	EB 61	Ann 13	Not applicable.		NA
mm. If a company's internal benchmark is used for the expected return on equity, is the cost of debt based on the weighted average cost of debt financing of the legal entity owning the CDM project activity?	EB 61	Ann 13	Refer to CAR BQA 2.	CAR BQA 2	
nn. For loans, is the weighted average cost of outstanding long-term debt used?	EB 61	Ann 13	Not applicable.		NA
oo. For bonds, is the weighted average yield of the bonds during the last three months prior to the submission of the CDM-PDD for validation or prior to the investment decision, whichever is earlier, used? The use of bonds to determine the cost of debt is only appropriate for corporate bonds issued in the host country of the CDM project.	EB 61	Ann 13	Not applicable.		NA



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pp. In cases where the debt finance structure of the project is not yet available (e.g. a letter of intent for debt funding is not available), the cost of debt can be assumed as the commercial lending rate in the country or the yield of a 10 year bond issued by the government of the host country or, if this is not available, the bond with the maturity which is closest to 10 years. Was the following documented in the CDM-PDD?	EB 61	Ann 13	Not applicable.		NA
i. for bonds: the key parameters of the bond including the time of maturity, yield, registration issuance in the financial system and set-up in the market;	EB 61	Ann 13	Not applicable.		NA
ii. for loans from a financial institution: the contract of lending between the financial institution and the legal entity owning the assets of the project activity, or, in absence of the contract, a letter from the bank stating its intention to award the loan and the key terms for the loan;	EB 61	Ann 13	Not applicable.		NA
iii. for debt financing from a parent company: the transfer of capital to the legal entity, documented with the contract of lending between the parent company and the legal entity owning the assets of the project activity and/or the parameters of the corporate bonds as mentioned above. (This latter option is only valid for corporate bonds issued in the host country of the CDM)	EB 61	Ann 13	Not applicable.		NA



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project activity)					
qq. If the benchmark is based on parameters that are standard in the market, is the cost of debt ecalculated as the cost of financing in the capital markets (e.g. commercial lending rates and guaranteesrequired for the country and the type of project activity concerned), based on documented evidencefrom financial institutions with regard to the cost of debt financing of comparable projects?	EB 61	Ann 13	Not applicable.		NA
rr. In caseswhere this data is not available, is the commercial lending rate in the host country used to calculate thecost of debt?	EB 61	Ann 13	Not applicable.		NA
ss. If a company's internal benchmark is used for the expected return on equity, is the percentage of debt financing and equity financing reflect the long-term debt/equity financestructure of the legal entity owning the assets of the project activity?	EB 61	Ann 13	Yes.		OK
tt. If: (a) the legal entity owning the assets of the project activity has balance sheets audited by athird party within two years prior to the submission of the CDM-PDD for validation; and (b) theaccounting books of the legal entity reflect at least the total value of all the assets needed for theproject activity. Is the percentage determined based on the latest balance sheet provided under local fiscal/accounting standards andrules?	EB 61	Ann 13	Not applicable.		NA
uu. If the debt/equity finance structure is not yet	EB	Ann	Yes.		OK



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available, was 50% debt and 50% equity financing assumed as a default?	61	13			
vv. Is the benchmark based on parameters that are standard in the market?	EB 61	Ann 13	Yes.		OK
ww. If yes, is the typical debt/equity finance structure observed in the sector of the country used?	EB 61	Ann 13	Not Applicable.		NA
xx. If such information is not readily available, was 50% debt and 50% equity financing assumed as a default?	EB 61	Ann 13	Yes.		OK
yy. Has an investment comparison analysis and not a benchmark analysis used when the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services?	EB 61	Ann 13	Not Applicable.		NA
zz. Have variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been presented in the PDD and be reproducible in the associated spreadsheets?	EB 61	Ann 13	Yes.		OK
aaa. Have a corrective action been raised for a variable to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis ?	EB 61	Ann 13	Not Applicable.		NA
bbb. Is the range of variations selected is reasonable in the project context?	EB 61	Ann 13	Yes.		OK



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ccc. Dos the variations in the sensitivity analysis at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances?	EB 61	Ann 13	Yes..		OK
ddd. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative, is an assessment done of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity?	EB 51	Ann 58	Not Applicable.		NA
eee. Was the plant load factor defined ex-ante in the CDM-PDD according to one of the following options:	EB 48	Ann 11	See Below.		
i. The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval?	EB 48	Ann 11	<u>Refer to CAR BQA 3.</u>	CAR BQA 3	OK
ii. The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 48	Ann 11	<u>Refer to CAR BQA 03.</u>	CAR BQA 3	OK
fff. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the	VVM	111	Yes. All parameters and assumptions used in calculating the relevant indicator are suitable and accurate.		OK



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available evidence and expertise irrelevant accounting practices conducted?					
ggg. Were the parameters cross-checked against third-party or publicly available sources, such as invoices or price indices?	VVM	111	<p>CAR BQA 03 – Present all evidences to support the followings input values. Make sure that all information and evidences are based on the relevant information available at the time of the investment decision and not information available at an earlier or later point. Provide the dates of each evidence.</p> <ul style="list-style-type: none"> - Plant expansion capacity: 162 MW; - Plant Load Factor: 48%; - PPA price: BRL 121.25 - Administrative costs: 39,230/month; - O&M costs: 50/MW; - Aneel benefício econômico: 0,5%; - Taxa Aneel: 31.90 - Insurance: 0.4% - Depreciation tax: 5%; - Investment: BRL 666,072 - %IPI: 10%; - TUST %: 100% - R\$/WTG.year: BRL 5,500 - adjusted industry beta: 2.11 	CAR BQA 3	OK
hhh. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	111	Refer to BQA 03.		OK
iii. Was the correctness of computations carried out and documented by the project participants assessed?	VVM	111	Yes. Although, refer to CAR BQA 03.		OK
jjj. Was the sensitivity analysis by the project	VVM	111	Yes. PP has applied the variables to significant		OK



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participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?			variations and in addition determined the value of the variation that would reach the IRR for each variable analysed. All values were validated and it is unlikely that these values could occur.		
kkk. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	112	Yes, PP used the expected return on equity as benchmark to the Equity IRR. This is in accordance with the Guidance 12 in the Guidelines of Investment Assessment, version 5.		OK
III. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	112	Yes. PP used the expected return on equity in the Annex of the Guidelines of Investment Assessment, version 5. The expected return on equity is composed of four elements: (a) a risk free rate of return; (b) an equity risk premium; (c) a risk premium for the host country; and (d) an adjustment factor to reflect the risk of projects in different sectoral scopes.		OK
mmm. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:	VVM	112	See Below.		OK
i. assessing previous investment decisions by the project participants involved?	VVM	112	Not Applicable.		OK
ii. determining whether the same benchmark has been applied?	VVM	112	Not Applicable.		OK
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	112	Not Applicable.		OK
nnn. Did the project participants rely on values from Feasibility Study Reports (FSR) that are	VVM	113	CL BQA 03 - Did the project participants rely on values from Feasibility Study Reports (FSR) that		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
approved by national authorities for proposed CDM project activities?			are approved by national authorities for proposed CDM project activities?		
ooo. If yes:	VVM	113	See Below.		OK
i. has the FSR 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?	VVM	113	<u>Refer to CL BQA 02.</u>		OK
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	113	Refer to CL BQA 02.		OK
iii. If not, was the appropriateness of the values validated?	VVM	113	Refer to CL BQA 02.		OK
iv. On the basis of its specific local and sectoral expertise, is confirmation 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?	VVM	113	Refer to CL BQA 02.		OK
d. Barrier analysis					
a. Has barrier analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	115	No, the additionality is not demonstrated by barrier analysis.		OK
b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	115	The additionality is not demonstrated by barrier analysis.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. prevent the implementation of this type of proposed CMD project activity?	VVM	115	The additionality is not demonstrated by barrier analysis.		OK
ii. do not prevent the implementation of at least one of the alternatives?	VVM	115	The additionality is not demonstrated by barrier analysis.		OK
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}	VVM	116	The additionality is not demonstrated by barrier analysis.		OK
d. Were the barriers determined as real by:	VVM	117	The additionality is not demonstrated by barrier analysis.		OK
i. assessing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?	VVM	117	The additionality is not demonstrated by barrier analysis.		OK
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	117	The additionality is not demonstrated by barrier analysis.		OK
iii. Is existence of a barrier substantiated only by the opinions of the project participants?	VVM	117	The additionality is not demonstrated by barrier analysis.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(If yes, this barrier cannot be considered as adequately substantiated)					
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of <i>at least one of</i> the possible alternatives, in particular the identified baseline scenario?	VVM	117	The additionality is not demonstrated by barrier analysis.		OK
e. Common practice analysis					
a. Is this a proposed large-scale, or first-of-its kind small-scale project activity?	VVM	119	It is a large scale project activity.		OK
b. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	119	Yes. A common practice analysis was carried out, but didn't follow the Guidelines on Common Practice. Refer to Section 3 above.		OK
c. Was it assessed whether the geographical scope (e.g. 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? (For certain technologies the relevant region for assessment will be local and for others it may be transnational/global).	VVM	120	Yes. The geographical scope is the whole country, and is appropriate to this kind of project activity.		OK
d. Was a region other than the entire host country chosen?	VVM	120	No.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	120	The entire host country is adopted in the common practice analysis.		OK
f. Using official sources and local and industry expertise, was it determined 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?	VVM	120	Yes.		OK
g. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	120	No.		OK
h. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	Not applicable.		OK
7. Monitoring plan					
a. Does the PDD include a monitoring plan?	VVM	122	Yes.		OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	122	Yes. The monitoring plan is based in the methodology ACM0002, version 12.1.0		OK
c. Were the list of parameters required by the the selected methodology identified?	VVM	123	Yes. As the PP adopted the EF calculation ex ante, the only parameter to be monitored is the EG _{facility, y} .		OK
d. Does the monitoring plan contains all necessary parameters?	VVM	123	Yes. Please refer to 7.b.		OK
e. Are the parameters clearly described?	VVM	123	Yes.		OK
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	123	Yes.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
g. Are all data and parameters monitored as per monitoring methodology?	ACM	0002	Yes.		OK
h. Are all data collected as part of monitoring archived electronically and kept at least for 2 years after the end of the last crediting period?	ACM	0002	Not clear in the PDD. CL 17: Include in the PDD the information that the data will be kept at least for 2 years after the end of the latest crediting period.	CL 17	OK
i. Are 100% of the data monitored, if not indicated otherwise?	ACM	0002	Yes.		OK
j. Are measurements conducted with calibrated measurement equipment according to relevant industry standards?	ACM	0002	Yes. The project shall follow the national requirements from ONS: "The Project owner will proceed with the necessary monitoring measures as established in the procedures from the Electric System National Operator (ONS – from the Portuguese Operador Nacional do Sistema), Brazilian Electricity Regulatory Agency (ANEEL from the Portuguese Agência Nacional de Energia Elétrica) and the Electric Power Commercialization Chamber (CCEE from the Portuguese Câmara de Comercialização de Energia Elétrica). Among ONS rules are the ones related to calibration.		OK
k. Are the monitoring provisions in the tools referred to in the methodology correctly applied?	ACM	0002	Not applicable. The EF is fixed ex ante.		OK
l. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	123	Yes.		OK
m. Are the following means of implementation of the	VVM	123	Yes.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:					
i. data management procedures?	VVM	123	Yes.		OK
ii. quality assurance procedures?	VVM	123	Yes.		OK
iii. quality control procedures?	VVM	123	Yes.		OK
8. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	125	Please refer to item 1.b. above.		OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	126	Please refer to item 1.b. above.		OK
9. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?	VVM	128	Yes. However, refer to Section 3 above to a detailed discussion.		OK
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	129	Yes. However, refer to Section 3 above to a detailed discussion.		OK
c. Is the summary of the comments received as	VVM	129	No comments have been received.		OK



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HECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
provided in the PDD complete?					
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	129	No comments have been received.		OK
10. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	131	Yes. However the DOE didn't had access to this document. Refer to Section 3 to this discussion.		OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	132	Yes.		OK
c. Does the host Party require an environmental impact assessment?	VVM	132	Refer to Section 3 above.		OK
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	Refer to Section 3 above.		OK

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CAR BQA 1 – According to the Guidelines on the Assessment of Investment Analysis version 5, “The period of assessment should not be limited to the proposed crediting period of the CDM	EB 62 Annex 5	GE turbines are manufactured considering a 20-year lifetime. This information can be found in GE's website, in the design section of the website	Answer BQA 1 (23/01/2012) Due to provided evidences the answer has been accepted.



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project activity. Both project IRR and equity IRR calculations shall as a preference reflect the period of expected operation of the underlying project activity (technical lifetime), or if a shorter period is chosen include the fair value of the project activity assets at the end of the assessment period". Provide evidences to support the period of expected operation used in the investment analysis.		http://www.ge-energy.com/products_and_services/products/wind_turbines/ge_1.6_82.5_wind_turbine.jsp . Moreover, the PPA also has a 20-year term, which was considered when evaluating the project. The term of the PPA can be found at http://www.ccee.org.br/cceeinterdsm/v/index.jsp?vgnextoid=0794ae36a6548210VgnVCM1000005e01010aRCRD . Copies of these websites, which were accessed on 21/11/2011, are attached.	CAR BQA 1 is accepted.
CAR BQA 2 – Clarify whether a post-tax or pre-tax benchmark was used.	EB 62 Annex 5	The benchmark used is post-tax. A detailed explanation as to how the tax was considered in the benchmark calculation was included in section B.5. (Sub-step 2c). Please refer to the second version of the PDD, dated 23/12/2011.	Answer BQA 2 (23/01/2012) The clarification regarding this issue was included in the PDD section B.5. CAR BQA 2 is accepted.
CAR BQA 03 – Present all evidences to support the followings input values. Make sure that all information and evidences are based on the relevant information available at the time of the investment decision and not information available at an earlier or later point. Provide the dates of each evidence. (a) Plant expansion capacity: 162 MW; (b) Plant Load Factor: 48%; (c) PPA price: BRL 121.25 (d) Administrative costs: 39,230/month;	VVV 111	Wind industry in Brazil has become very competitive in the latest years. In this sense, some items of the cash-flow (e.g. equipment and O&M costs) are considered confidential. Therefore, PPs have opted to include the requested information in the IRR calculation spreadsheet, instead of making it publicly available in the PDD or mentioning the values in the validation protocol. Following guidance 8 of the Annex 5, EB	Answer BQA 3 (23/01/2012) All evidences have been provided and were considered in accordance to the CDM tools and specifications. CAR BQA 3 is accepted.



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<p>(e) O&M costs: 50/MW; (f) - Aneel beneficio economico: 0,5%; (g) - Taxa Aneel: 31.90 (h) Insurance: 0.4% (i) Depreciation tax: 5%; (j) Investment: BRL 666,072 (k) %IPI: 10%; (l) TUST%: 100% (m) R\$/WTG.year: BRL 5,500 (n) adjusted industry beta: 2.11</p>		<p>62, a different version of the spreadsheet will be made available to the DOE for publication in the UNFCCC website.</p> <p>(a) The source of this information is described in table 6 of the PDD and was made available for the DOE during the site visit;</p> <p>(b) The sources of this information are described in table 6 of the PDD. Relevant documentation was supplied to the DOE during the site visit. Also publicly available information is used as referenced in the PDD;</p> <p>(c) The source of this information is described in table 6 of the PDD and is based on a publicly available document as referenced in the PDD;</p> <p>(d) Follows attached the balance informing the administrative expenses during 2009. This information was used as an estimative of these costs.</p> <p>(e) The manufacturer contract already foresees O&M costs. Additionally the contract with ENEX is considered;</p> <p>(f) This input was not properly</p>	
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		<p>referenced in the first version of the cash-flow spreadsheet. This corresponds to rate used to calculate ANEEL Inspection fee. The source of information was mentioned in the second version of the spreadsheet;</p> <p>(g) This value was based on the annual economic benefit (from the Portuguese Benefício Econômico Típico Unitário anual) as established in paragraph II of ANEEL Ordinance #4774, dated December 22, 2009. The ANEEL Ordinance is attached;;</p> <p>(h) Follows attached the insurance of the three operational Small Hydropower Plants (SHP) owned by the company. The insurance premium, as presented in this document is 0.3%. Nevertheless, by time of the investment decision, the insurance market was not so experienced with wind power plants. Consequently, it was considered that the risk perception by the insurance company would be higher than for SHP. Therefore, a percentage of 0.4 was the value considered in the analysis;</p>	
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		<ul style="list-style-type: none">(i) The lifetime of the project, as informed by the manufacturer is 20 years. The depreciation was considered linear throughout the project cash flow. Thus, the depreciation rate is 5% (100%/20year);(j) The total investment of the plant is composed by the turbines costs and expenditures related to civil works. The equipment supplier contract and its amendment as well as the detailed quotation provided by the engineering company which was used as a basis for the investment analysis were supplied to the DOE during the site visit;(k) The estimated IPI aliquot was based on PPs experience;(l) The justification for this assumption is provided in the Table 6 of the PDD;(m) This input was not properly referenced in the first version of the cash-flow spreadsheet. This corresponds to the nominal value of the land leasing. The source of information was mentioned in the	
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		<p>second version of the spreadsheet;</p> <p>(n) The source of information used for the calculation of beta is provided in the spreadsheet supplied to the DOE previously to the site visit.</p> <p>The complete references to the above mentioned information was included in the second version of the spreadsheet. Additionally, the Equity IRR was slightly modified due to an adjustment to the IRR calculation.</p>	
<p>CAR1:The PDD version 1, Section A.2., didn't describe the scenario existing prior to the start of the project, present scenario and baseline scenario, as required by the EB 41 Ann 12.</p>	<p>EB41 Ann12</p>	<p>Section A.2 was revised in order to comply with the EB 412, Annex 12. Please refer to the second version of the PDD, dated 23/12/2011.</p>	<p>The PDD V 2 is updated including the necessary information.</p> <p>"The Wind Parks are a cleaner source of electricity that will also have an important contribution to environmental sustainability by reducing carbon dioxide emissions that would have occurred otherwise in the absence of the project. No electricity was generated in the sites where the wind parks are going to be implemented. In this sense, the baseline scenario is the same as the scenario existing prior to the implementation of the project</p>



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			<p>activity, which is electricity supplied by the grid (for details as to how the baseline scenario was identified please refer to section B.4). Therefore, the project activity reduces emissions of greenhouse gases (GHG) by avoiding electricity generation from a mix of fossil fuel sources connected to the Brazilian Grid, which would be generated (and emitted) in the absence of the project.”</p> <p>CAR 1 is closed</p>
<p>CAR 2: The PDD V 01, at the Section A.4.3. didn't included:</p> <ul style="list-style-type: none"> - a description of how environmentally safe and sound technology, and know-how to be used, is transferred to the Host Party, - the scenario existing prior to the start of the implementation of the project activity, and - the baseline scenario, - The emissions sources and the greenhouse gases involved in the project activity, as required by EB 41 Annex 12. 	EB41 Ann12	The requested information was included in section A.4.3. of the revised version of the PDD, dated 23/12/2011.	<p>The PDD V 2 included the necessary information.</p> <p>CAR 2 is closed.</p>



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<p>CAR 2: In the PDD V 01, it is informed that the Localization License # 4115 refers too to Morrão Wind Power. This License doesn't refers to this Wind Park.</p>	<p>EB41 Ann12</p>	<p>Morrão Wind Power Plant was previously named Morrinhos Wind Power Plant, as mentioned in the environmental license #4115. The modification of the name was communicated to the state environmental agency (INEMA) and to the Brazilian Energy Research Company (EPE). The formal documentation received from INEMA (formally IMA) and sent to EPE is attached.</p>	<p>The information is provided to the DOE:</p> <ul style="list-style-type: none"> - Copy from the letter (Document CT RENOVA-SP 295/2010) sent to the EPE; - Copy from the letter received from the environmental agency (IMA) informing that the changes in the document are being provided. <p>CAR 2 is closed.</p>
<p>CAR 3: The PDD V01, at the Section B.6.3., states that the net energy generation of the Power plants is:</p> <p>Da Prata: 91,833 MWh/y Dos Araçás: 135,289 MWh/y Morrão: 139,902 MWh/y Seraíma: 142,464 MWh/y Tanque: 122,430 MWh/y Ventos do Nordeste: 109,625 MWh/y</p> <p>This is in disagree with the informed in the Optimized Wind Studies, with the discount of 2.5% with transmission losses.</p> <p>Da Prata: 94,3 GWh/y Dos Araçás: 139,0 GWh/y</p>	<p>EB41 Ann12</p>	<p>The losses considered in the Optimized Wind Studies are the ones occurring between the wind parks and their connection point with the Brazilian Grid. The 2.5% transmission losses are the ones registered within the Brazilian Grid which shall also be considered, as per the electricity commercialization rules.</p> <p>In this sense, the Optimized Wind Studies do not considered the transmission losses of the Brazilian System and the differences can be attributed to rounding. However, the calculations were revised in order to increase the consistency with the Optimization Wind Studies.</p> <p>Please refer to the revised PDD and</p>	<p>The PDD and the support calculation spreadsheet are updated.</p> <p>CAR 3 is closed.</p>



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Morrão: 143,7 GWh/y Seraíma: 146,3 MWh/y Tanque: 125,8 MWh/y Ventos do Nordeste: 112,5 MWh/y		CERs calculation spreadsheet, both dated 23/12/2011.	
CAR 4: The PDD V 01, at the Section B.6.3., adopted the EF grid, BM, $y = 0.1164 \text{ tCO}_2\text{e/MWh}$, in disagree with the presented in the support spreadsheet.	EB41 Ann12	The support spreadsheet was the revised version of the one used previously. The emission factor calculation spreadsheet was revised in order to apply the procedures provided by the tool to identify the sample group of power units m used to calculate the build margin emission factor. The result ($0.1166 \text{ tCO}_2\text{/MWh}$) is slightly different from the previous one ($0.1164 \text{ tCO}_2\text{/MWh}$). The PDD was revised accordingly. Please refer to the second version of the document, dated 23/12/2011.	The DOE Verified the revised spreadsheet, and found it correct. In the same way, the PDD V 2 is consistent with the data spreadsheet data. CAR 4 is closed.
CAR 5: The PDD Version 01, at the Section B.8. didn't indicated if the person/entity is also a project participant listed in Annex 1, as required by the EB 41 Annex 12.	EB41 Ann12	The required information was included in the revised version of the PDD, dated 23/12/2011.	The PDD V2 included the information. CAR 5 is closed.
CAR 6: The PDD Version 1.0, at the Section C.2., didn't inform whether the project activity will use a renewable or a fixed crediting period, nor completed accordingly the Sections C.2.1. or C.2.2.	EB41 Ann12	The requested information was included in section C.2 of the revised version of the PDD. Please note that only section C.2.1. was completed since this section refers to the option actually chosen by the Project Participants (PPs). It is PPs understanding that, since the fixed	The PDD V2 is updated as requested. CAR 6 is closed.



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		crediting period was not the chosen option, the sections referring to it must not be completed. Please refer to the second version of the PDD, dated 23/12/2011.	
CAR 7: The PDD Version 1.0, at the Section C.2.1. didn't indicated that each crediting period shall be at most 7 years and may be renewed at most two times,	EB41 Ann12	This statement corresponds to the applicable ruling as presented in EB 41, Annex 12. In this sense, it is PPs understanding that this section does not have to be completed. However, this information was included in section C.2.1 as requested by the DOE. Please refer to the second version of the PDD, dated 23/12/2011.	PDD V 2 is updated as requested. CAR 7 is closed.
CAR 8: The PDD Version 1.0, at the Section B.5. refers to the Guidelines in the demonstration and assessment of prior consideration of the CDM, EB 49,Annex 22. This Guidelines has a updated version.	EB41 Ann12	The version of the Guidelines was updated. Please refer to the second version of the PDD, 23/12/2011.	The PDD V 2 correctly refers to the latest version of the document. CAR 8 is closed.
CAR 9: The PDD Version 1.0, at the Section B.5. didn't used the Guidelines on Common Practice to demonstrate that the project activity is not common practice.	EB41 Ann12	The requested guidelines was applied as detailed in section B.5. of the second version of the PDD, dated 23/12/2011.	The PDD V 2 is updated and the Common Practice analysis is updated. CAR 9 is closed.
CAR 10: Seeing that the Garrad Hassan reports (wind certificate) are dated november 2010 and the investment decision was in August 2010 (MoU), this PLF information was not was not available at the time of the investment decision. It shall be used an information available at the time	EB41 Ann12	In order to clarify the amendment an explanation regarding the development of the project is to be provided. The registration process of the project in the action was due on 16/08/2010 (see the schedule of the auction available at	The information is updated in the investment analysis, and all input values were available at the moment of investment decision. CAR 10 is closed.



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of the investment decision.	<p>http://www.aneel.gov.br/aplicacoes/editais_geracao/documentos/052010-Cronograma%20_para%20publicação%20em%2012-08-10_.pdf). During this process, project owners had to provide EPE with several documents confirming the estimated electricity generation, technology to be used, location of the project, rights to use the area, among others. The data sheets used for the purpose of registering the project were already supplied to the DOE. The preliminary wind certifications, which were used to fill the datasheets supplied to EPE, considered 1.5 MW wind turbines. However, before the auction the wind turbines' manufacturer informed PPs that more efficient 1.6MW wind turbines were already available. Therefore, in order to better estimate the power generation by the plants the wind certifications had to be updated. Further, as per the auction rules (article 14.14 of the public announcement available at http://www.aneel.gov.br/aplicacoes/editais_geracao/documentos/052010_Edital_LE_R_23-07-10_.pdf), modifications in the layout of the project submitted for registration in the tender are allowed. In this sense, project owners have commissioned Garrad Hassan to conduct simulations aiming at optimizing the</p>	
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		<p>power plants. On 24/08/2010 – i.e. two days before the auction, a Garrad Hassan representative forwarded the preliminary results of the wind certification to RENOVA (please refer to the file named “ENC 105097 6 Resultados GE1.6 XLE 20 en total RE 105097 Resultados pendientes en total 3 PEs Zona13 y Prata con GE1.5XLE 2PEs Zona5 con G80 y G87 y 2 PEs Zona2 con GE1.5 G80 y G87”). This preliminary study was considered during the auction. After RENOVA won the auction, the preliminary results of the wind certification were further improved and formally issued on November, 2010 (after the auction). The final results were being used since they represent the actual scenario for the investment analysis. Nonetheless, PPs acknowledge that the evidence previously presented to confirm the PLF used in the investment analysis, in spite of the information being informally available at the time of investment decision, is not fully in compliance with the requirement. As per Guidance 6 of Annex 5, EB62, “Input values used in all investment analysis should be valid and applicable at the time of the investment decision taken by the project participant.” In this sense, the analysis presented in the PDD was revised to consider the preliminary</p>	
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		information provided to PPs by Garrad Hassan before the auction. Please note the project is additional in both scenarios and still significant variation have to be observed in the tariff, electricity generation and investment in order the IRR equals the benchmark.	
CL BQA 1 – Clarify with evidences the moment of investment decision, in order to guarantee that the input values are the correct ones at this moment in the project chronology.	EB 62 Annex 5	It is PPs understanding that the proposed CDM Project Activity starting date is also the circumstance when the investment decision was made. As detailed in section C of the PDD, the investment decision regarding the implementation of the project was taken on 26 August 2010. This date represents when the MoU signed between RNEOVA and the turbines' manufacturer turned into effect.	Answer BQA 1 (23/01/2012) OK The answer was accepted. CL BQA 1 is closed.
CL BQA 2 – Explain the suitability of the beta used in the calculation of the benchmark. And why it was not used the value suggested in the EB 62 annex 5.	EB 62 Annex 5	The PPs understand that the use of the beta is suitable since it captures the risk of investing in a given industry sector. However, it was identified that there is not significant amount of Brazilian electricity companies listed in the stock exchange. In this sense, the available information would not be sufficient for the beta estimation. For this reason, the beta from the US based companies was adopted. The US information was unlevered using specifics variables from the United States, such as	Answer BQA 2 (23/01/2012) OK The answer was accepted. CL BQA 2 is closed.



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		<p>their tax rate and financing percentage, and re-leveraged considering the Brazilian tax rate and financing percentage.</p> <p>As per paragraph 15 of Annex5, EB62, the use of the values presented in its Appendix A is not mandatory. In fact, project participants calculated the benchmark using parameters that are standard in the market clearly presenting the source of data used, as stipulated in <i>option b</i>).</p>	
CL BQA 03 - Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activities?	VVM 113	No Feasibility Study Report approved by national authorities was used.	<p>Answer BQA 3 (23/01/2012)</p> <p>OK The answer was accepted.</p> <p>CL BQA 3 is closed.</p>
CL 1: Please provide a copy from the official schedule informed to ANEEL.	EB41 Ann12	The latest versions of the official schedules informed to ANEEL are attached.	<p>The DOE received the Information sent to ANEEL on October 2011, related to all the windpower plants:</p> <ul style="list-style-type: none"> - Tanque - Seraíma - Araçás - Da Prata - Ventos do Nordeste



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			- Morrão CL 1 is closed.
CL 2: Clarify in which of the Section of the related document, can be found origin of the technical information on the Table 2.	EB41 Ann12	Reference to the document which presents the technical specifications of the wind turbines was updated. The information presented in table 2 of the PDD is found on page 6 of the document. The manufacture brochure can be accessed in the website http://www.geenergyfinancialservices.com/press_room/publications/GEA14954C15-MW-Broch.pdf and is also attached to this protocol.	The information is provided. CL 2 is closed.
CL 3; The PDD version 01, at the Section A.4.3., states that Morrão and Seraima will have 19 units in each site, resulting in a total 30 MW of installed capacity each. Clarify how it can be, if 19 units with 1.6 MW each results in 30.4 MW.	EB41 Ann12	In addition to Morrão and Seraíma, Dos Araçás Wind Park will also have its installed capacity limited. The turbines in each of these sites that will be limited are highlighted in the correspondent wind certification. The wind kinetic energy is converted into electrical energy depending on the aerodynamic position of the blades, which depends on the angle of the wind. This position influences the electricity to be generated by each turbine. The amount of electricity dispatched at the connection point is regulated through the automatic control of the turbine. The	The question is clarified. CL 3 is closed.



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		<p>system corresponds to a software routine that controls, among other parts, the drive mechanism of the blades, enabling them to receive more or less wind depending on their aerodynamic position.</p> <p>This adjustment will be made using the SCADA GE system.</p> <p>The system will automatically monitor angle of the blades to ensure that the maximum power at the connection point does not exceed 30 MW.</p>	
CL 4: Although the versions from the Tool to calculate the emission factor for an electricity system (version 2.2.0) and from the Tool for the demonstration and assessment of additionality (version 5.2) are still valid, the PP are requested to update to the latest version available.	EB41 Ann12	<p>The version of the tools was updated as requested by the DOE. Please refer to the second version of the PDD, dated 23/12/2011.</p>	<p>The document versions are updated.</p> <p>CL 4 is closed.</p>
CL 5: The PDD Version 01, reports that Da Prata Wind Power has 22.4 MW, Tanque Wind Farm 27.2 MW and Ventos do Nordeste 22.4 MW, in disagree with the Auction result, which respectively informs 19.5 MW, 24.0 MW and 19.5 MW. Clarify the difference, and provide the necessary evidences.	EB41 Ann12	<p>The PDD reports the installed capacity of the plants after their optimization. The reference for this updated information regarding the installed capacity of the plants is the wind certifications from GL Garrad Hassan, dated 22/11/2010 (after the auction). The wind certifications were already supplied to the DOE during the site visit.</p>	<p>The question is clarified.</p> <p>CL 5 is closed.</p>
CL 6: Provide a copy from the Operational License # 3932.	EB41 Ann12	<p>A copy of the requested document is attached.</p>	<p>The copy from the Operational License is provided.</p>



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			CL 6 is closed.
CL 7: Clarify the relevance of both latest paragraph of this Section, which discourse about environment.	EB41 Ann12	The two last paragraphs were excluded. Only information regarding the monitored parameter, <i>i.e.</i> electricity generated by the plants, is mentioned in the section B.7.2. Please refer to the second version of the PDD, dated 23/12/2011.	The question is clarified, and the PDD updated. CL 7 is closed.
CL 8: Provide a copy from the MoU and a <u>schedule of the works</u> .	EB41 Ann12	The MoU is attached. This document was also used as evidence to some input values of the investment analysis as described above in CAR BQA 3.	The document is provided. CL 8 is closed.
CL 9: Clarify the reason of the change in one of the cities listed in the UNCFFF Form (Licínio de Almeida),as the actual location presented in the PDD V 01 (Igaporã)	EB41 Ann12	As described in the PDD, the wind parks' design was optimized. One of the modifications proposed by this optimization is a new layout of the wind turbines. The newest proposed layout altered the cities comprehended by the project, <i>i.e.</i> instead of Licínio de Almeida one of the plants of the complex will be partially located in Igaporã. Please note that both ANEEL and the CDM form were elaborated considering the description of the first design of the project. However, the modification can be considered small since the turbines were reallocated next to the places they were	The question is clarified. CL 9 is closed.



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		<p>first being considered. In addition, as per the local regulations, this type of adjustments is allowed.</p> <p>As a consequence of the optimization, the geographic coordinates of the wind parks described in section A.4.1.4 were updated. The revised information considers the location of the first turbine of each wind park, as presented in the third part wind certification. The wind certification presents this data in the UTM format. To convert the geographic coordinate from UTM to the format presented in the PDD, an online tool was used (http://www.rdtec.com.br/rdgeomg/localm aster.htm).</p>	
CL 10: The PDD Version 01, at the Section C.1.2. states that the operational lifetime of the project activity is 25y – 0m. Give the reference to this information.	EB41 Ann12	This information was revised. The lifetime of the project as informed by the manufacturer is 20 years. The reference to this information was included in section C.1.2. and is also attached to this protocol.	<p>The information is clarified, and the PDD updated.</p> <p>CL 10 is closed.</p>
CL 11: Clarify the national laws related to environmental impacts study, and include in the PDD a brief comment.	EB41 Ann12	Sections D.1 and D.2 of the PDD were revised in order to reflect the local environmental regulations related to the implementation of wind power plants. The second version of the PDD, dated 23/12/2011, as well as a copy of the CONAMA Resolution mentioned in the	<p>The PDD included the required information.</p> <p>CL 11 is closed.</p>



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		PDD, are attached.	
CL 12: Provide a copy from all the invitations for comment (postal receipts) sent to the stakeholders, as defined in the DNA Resolution # 7.	EB41 Ann12	Copies of all postal receipts received after the local stakeholder consultation process are attached.	The copies are provided. CL 12 is closed.
CL 13: Clarify why the PDD Version 1.0, at the Section B.5., in the identification of alternatives, didn't included other types (e.g.: hydro, biomass, fossil fuel) of power plant with a similar capacity?	EB41 Ann12	Other types of alternatives are not realistic. An explanation for not including other alternatives was included in the second version of the PDD, dated 23/12/2011.	The question is clarified, and the PDD updated. CL 13 is closed.
CL 14: The PDD Version 1.0, refers to the Environmental Agency involved in the project as INEMA and IMA. Clarify which is the current name, and update the document.	EB41 Ann12	The current name of Bahia State environmental agency is INEMA. The PDD was revised according. Please refer to the revised version of the document, dated 23/12/2011.	The question is clarified, and the PDD updated. CL 14 is closed.
CL 15: In the PDD Version 1.0, it refers to "Renova 2010". Update, stating the complete name of the project activity.	EB41 Ann12	Reference to the complete name of the project was included in Table 7, Section B.5. of the revised version of the PDD. Please refer to the second version of the document dated, 23/12/2011.	The PDD is updated as required. CL 15 is closed.
CL 16: Provide a copy from the following documents: - RAS – Environmental Simplified Study	EB41 Ann12	The Simplified Environmental Study is attached.	Not all the RAS is provided. CL 16 is not closed.
CL 17: Include in the PDD the information that the data will be kept at least for 2 years after the end of the latest crediting period.	EB41 Ann12	The requested information was included in section B.7.2. of the second version of the PDD, dated 23/12/2011.	The PDD is updated as required. CL 17 is closed.