VALIDATION REPORT

OMEGA ENERGIA RENOVÁVEL S.A.

VALIDATION OF THE MURITIBA WIND POWER PLANT CPA

REPORT NO. BRAZIL-VAL/ BR.1099485

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

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Omega Energia Renovável S.A.	João Antonio R. da Cunha

Summary:

Bureau Veritas Certification has made the validation of the Muritiba Wind Power Plant CPA located in municipality of São Francisco de Itabapoana, Rio de Janeiro state, Southeast region of Brazil to be included in the Omega Wind Power Plants Programme of Activities 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 specific CPA-DD, the baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the CPA design and the baseline and monitoring plan; ii) follow-up interviews with the 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 Coordinating/Managing Entity revised its CPA-DD.

In summary, it is Bureau Veritas Certification's opinion that the CPA is correctly included in the Omega Wind Power Plants Programme of Activities and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.:	Subject Group:
BRAZIL-val/ BR.1099485	CDM
Project title:	
Muritiba Wind Power Plant CPA	
Work carried out by:	
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Marco Prauchner	

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Work approved by:
Flavio Gomes – Global Product Manager

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1 INTRODUCTION

Omega Energia Renovável S.A. [*] has commissioned Bureau Veritas Certification to validate its Muritiba Wind Power Plant CPA at municipality of **Erro! Fonte de referência não encontrada.**, **Erro! Fonte de referência não encontrada.** state, **Erro! Fonte de referência não encontrada.** region of Brazil to be included in Omega Wind Power Plants Programme of Activities.

This report summarizes the findings of the validation of the CPA, 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 CPAs'. The validation is an independent third party assessment of the project design. In particular, the CPA'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 CPAs 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 documents, the CPA'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.

[*] Omega Energia Renovável S.A. is the PP to which the DOE has a contractual obligation, since, as of 29/12/2011, such PP is the owner of 100% of Zeta Energia S.A., who signed the contract, before the Zeta-Omega-Ecopart sale agreement, as described in PoA-DD version 04 /**Ref-26**/.

1.3 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	TA 1.2	TASK PERFORMED*
Team Leader	Marcelo Porto	☒	☒**DR** ☒**SV** ☒**RI**
Financial Specialist	Bernardo Lima	☐	☒**DR** ☐**SV** ☒**RI**
Financial Specialist	Antonio Vinicius Gomes	☐	☒**DR** ☐**SV** ☒**RI**
Internal Technical Reviewer (ITR)	Marco Prauchner	☒	☒**DR** ☐**SV** ☐**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 programme, according to the Clean Development Mechanism Validation and Verification Manual (version1.2) /**Ref-D**/ and the Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities (version 04.1) /**Ref-G**/, 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 specific CPA-DD submitted by Omega Energia Renovável S.A. and additional background documents related to the project design and baseline, i.e. country Law, CPA-DD form /**Ref-E**/, 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, Omega Energia Renovável S.A. revised the specific CPA-DD and resubmitted it on 10/04/2012.

The validation conclusions presented in this report relate to the project as described in the specific CPA-DD version 04.

2.2 Follow-up Interviews

On 05/12/2012 Bureau Veritas Certification performed interviews with stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Omega Energia Renovável S.A. and Ecopart Assessoria em Negócios Empresariais Ltda were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
CME: Omega Energia Renovável S.A.	➢ PoA-DD and specific CPA-DD (Muritiba Wind Power Plant CPA) project design document ➢ Technology description ➢ Additionality assessment ➢ Environmental assessment ➢ Monitoring plan ➢ Monitoring methodology ➢ Baseline emissions estimation ➢ Project emissions estimation ➢ Emission reductions estimation ➢ Stakeholder consultation process ➢ Record keeping system of the PoA
Implementer: Zeta Energia S.A.	➢ PoA-DD and specific CPA-DD (Muritiba Wind Power Plant CPA) project design document ➢ Technology description ➢ Additionality of the real case CPA-DD (Muritiba Wind Power Plant CPA) ➢ Monitoring plan ➢ Monitoring methodology ➢ Baseline emissions estimation ➢ Project emissions estimation ➢ Emission reductions estimation. ➢ Environmental requirements compliance. ➢ Stakeholder consultation process
Consultant: Ecopart Assessoria em Negócios Empresariais Ltda	➢ PoA-DD and specific CPA-DD (Muritiba Wind Power Plant CPA) project design document ➢ Technology description ➢ Additionality of the real case CPA-DD (Muritiba Wind Power Plant CPA) ➢ Monitoring plan ➢ Monitoring methodology ➢ Baseline emissions estimation ➢ Project emissions estimation ➢ Emission reductions estimation. ➢ Environmental requirements compliance. ➢ Stakeholder consultation process

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

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.

The validation team may also raise a forward action request (FAR) during validation to identify issues related to programme implementation that require review during the first verification of the CPA under the PoA.

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

2.4 Internal Technical Review

The validation report underwent an Internal Technical Review (ITR) before requesting registration of the programme.

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 Team Leader 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 PoA design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the CME as well as the PoA, 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 Team Leader and Validation Team and discusses these matters with Team Leader.

After the agreement of the responses on the 'Clarification Request' from the Team Leader 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 39 Corrective Action Requests (CARs) and 26 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 beginning of each section corresponds to the VVM paragraph.

3.1 Project design document (57)

The validation team hereby confirms that the CPA-DD complies with the latest CPA-DD form and validated generic CPA DD.

3.2 CPA description (64)

The entity responsible for the proposed CPA is Zeta Energia S.A. (hence forth referred to as CPA implementer). Zeta Energia S.A. is a company which prospects renewable energy projects, focusing on wind energy. The CPA implementer is not listed as a project participant of the PoA.

The proposed CDM programme activity (CPA) consists of the implementation of the **Erro! Fonte de referência não encontrada.** Wind Power Plant with 9 MW of installed capacity. The plant is expected to become operational in 2016.

The CPA is being proposed in the context of the *Omega Wind Power Plants Programme of Activities* which has the primary objective of helping Brazil to meet its rising demand for energy due to economic growth and improving the supply of electricity, while contributing to environmental, social and economic sustainability by increasing the share of renewable energy in total electricity consumption of the country (and for the region of Latin America and the Caribbean).

The PoA is a voluntary coordinated action by the managing entity Omega Energia Renovável S.A., consisting of the implementation of renewable energy projects in Brazil. The hub of the PoA is the construction of Greenfield wind power plants connected to the Brazilian Interconnected System (from the Portuguese *Sistema Interligado Nacional – SIN*).

The **Erro! Fonte de referência não encontrada.** Wind Power Plant will be developed in the municipality of **Erro! Fonte de referência não encontrada.**, **Erro! Fonte de referência não encontrada.** state, **Erro! Fonte de referência não encontrada.** region of Brazil.The geographic coordinates of the site where the wind power plant is going to be implemented as well as a figure illustrating where the plant is located within the PoA geographical boundary (i.e. Brazil) are presented below.

Geographic Coordinates	*Muritiba Wind Power Plant CPA*
Longitude (West)	-41.0920
Latitude (South)	-21.5792

Figure 1 - Location of the Project Activity – **Erro! Fonte de referência não encontrada.** Wind Power Plant - under the PoA – **Erro! Fonte de referência não encontrada.**.

The full implementation of this project activity will generate estimated annual reductions of 78,603 tCO_2e.

The expected operational lifetime of the CPA is 20 years.

The crediting period is renewable and the length of this crediting period is 7 years.

Bureau Veritas Certification confirms that the CPA boundary is included in the PoA boundary.

The validation team hereby confirms that the programme description in CPA-DD /**Ref-27**/ is accurate and complete in all respects.

The DOE validated the accuracy and completeness of the project description by a document review of the Specific CPA-DD version 04 /**Ref-27**/, the Wind Certification /**Ref-12**/, the Simplified Environmental Report /**Ref-32**/, methodology ACM0002 version 12.3.0 /**Ref-A**/, through interviews with project participants and a site visit, on 05/12/2011.

3.3 Baseline and monitoring methodology

3.3.1 Applicability of the selected baseline and monitoring methodology (76-77)

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

The **Erro! Fonte de referência não encontrada.** Wind Power Plant consists of a Greenfield wind power plant that will be connected to the Brazilian Interconnected System. In this sense, it complies with the applicability conditions of ACM0002 version 12.3.0 as detailed below.

According to the applicability conditions, ACM0002 methodology *is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).*

The **Erro! Fonte de referência não encontrada.** Wind Power Plant is a grid connected Greenfield wind power plant, thus corresponding to option (a) provided in the above paragraph.

Steps taken to assess the applicability condition: document review of Specific CPA-DD version 04 /**Ref-27**/ and of the Wind Certification /**Ref-12**/, and through a site visit, on 05/12/2011.

The methodology also provides the following conditions:

– *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 **Erro! Fonte de referência não encontrada.** Wind Power Plant consists of the installation of new wind power plant.

Steps taken to assess the applicability condition: document review of Specific CPA-DD version 04 /**Ref-27**/ and of the Wind Certification /**Ref-12**/, and through a site visit, on 05/12/2011.

– *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 **Erro! Fonte de referência não encontrada.** Wind Power Plant consists of the implementation of Greenfield wind power plants. Therefore, this applicability condition is not applicable.

Steps taken to assess the applicability condition: document review of Specific CPA-DD version 04 /**Ref-27**/ and of the Wind Certification /**Ref-12**/, and through a site visit, on 05/12/2011.

– *In case of hydro power plants*
  - *At least one of the following conditions must apply:*
    - *The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or*
    - *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*
    - *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 project 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.*

Not applicable. The proposed CPA does not correspond to a hydropower plant.

Steps taken to assess the applicability condition: document review of Specific CPA-DD version 04 /**Ref-27**/ and of the Wind Certification /**Ref-12**/, and through a site visit, on 05/12/2011.

The methodology has the following restrictions – *i.e.* it 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/m^2.*

The proposed CPA is still eligible to the use of ACM0002 since it does not correspond to any of the restrictions listed above.

Steps taken to assess the applicability condition: document review of Specific CPA-DD version 04 /**Ref-27**/ and of the Wind Certification /**Ref-12**/, and through a site visit, on 05/12/2011.

In addition to the applicability conditions of ACM0002, the applicability conditions of the tools used must also be assessed. In order to estimate

the baseline emissions occurring after the implementation of the CPA the "*Tool to calculate the emission factor for an electricity system*" is used. This tool provides the steps required to estimate the CO_2 emission factor, which consists of a "*combined margin*", for the displacement of electricity generated by plants connected to an electric grid.

As described in section B.6.1 of the PoA-DD, off-grid power plants were not considered. Hence, the requirements of Annex 2 of the tool, referring to the applicability conditions that shall be met when this kind of plants are considered, are not applicable. Besides, the Brazilian Electric System is neither partially nor totally located in any Annex-I country.

In this sense, it can be concluded that there are no applicability conditions preventing the use of this tool to estimate the CO_2 emission factor of the Brazilian Electricity System in the context of the proposed CPA project activity.

The eligibility criteria of the applicability of the selected baseline and monitoring methodology is set as:

Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs

The **Erro! Fonte de referência não encontrada.** Wind Power Plant consists of a Greenfield wind power plant that will be connected to the Brazilian Interconnected System. In this sense, it complies with the applicability conditions of ACM0002.

The DOE hereby confirms that the selected baseline and monitoring methodology ACM0002 version 12.3.0 /**Ref-A**/, the "Tool for the demonstration and assessment of additionality" version 06.0.0 /**Ref-B**/ and the "Tool to calculate the emission factor for an electricity system" version 02.2.1 /**Ref-C**/ are applicable to the CPA being included in the PoA, which complies with all the applicability conditions and relevant eligibility criteria therein.

The DOE also 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.

3.3.2 CPA boundary

Bureau Veritas Certification confirms that in establishing the boundary of the PoA, the project participants have taken into consideration all

applicable national and/or sectoral policies and regulations within that chosen boundary.

Muritiba Wind Power Plant is located in the state of Rio de Janeiro, in Brazil, and will connected to the Brazilian Interconnected Grid. Therefore, the project boundary is within the geographical area established in the PoA-DD.

The DOE was able to confirm the CPA boundary by reviewing the Specific CPA-DD version 04 /**Ref-27**/, the Wind Certification /**Ref-12**/ and the Simplified Environmental Report /**Ref-32**/.

3.3.3 Baseline identification (87-88)

The steps taken to assess the requirement given in paragraph 87 and 88 of the VVM are described below.
According to the applicability conditions of ACM0002, the methodology *is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).*
Muritiba Wind Power Plant is a grid connected Greenfield wind power plant, thus corresponding to option (a) provided in the above paragraph.
As per ACM0002 version 12.3.0, if the project activity is the installation of a new grid-connected renewable power plant/unit – which is the actual case –, the baseline scenario is the following:

> *Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".*

The DOE was able to validate the baseline identification through review of Specific CPA-DD version 04 /**Ref-27**/ and of the Wind Certification /**Ref-12**/, and through a site visit, on 05/12/2011.

Based on the above assessment, the validation team hereby confirms that:
(a) All the assumptions and data used by the project participants are listed in the PoA-DD, including their references and sources;
(b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA-DD;
(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 PoA-DD;
(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 PoA.

3.3.4 Emission reductions (92-93)

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

Baseline emissions (BE_y)

The proposed CPA corresponds to a **Erro! Fonte de referência não encontrada.**. Therefore, the baseline emissions are calculated as follows:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$ **Equation 1**

Where,

BE_y = Baseline emissions in year *y* (tCO_2);

$EG_{PJ,y}$ = 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);

$EF_{grid,CM,y}$ = 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 this kind of project, $EG_{PJ,y}$ is determined as follows.

$$EG_{PJ,y} = EG_{facility,y}$$ **Equation 2**

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);

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

The quantity of net electricity generation supplied by the project plant to the grid in year *y* ($EG_{facility,y}$, in MWh) is determined, for the purpose of ex-ante estimative, as being equal to the installed capacity of the plant multiplied by the capacity factor (Plant Load Factor) and by the number of

hours in which the plant is forecasted to be operational during year *y*.
The project participants contracted Camargo Shubert, a reputed third-party engineering company, to carry out relevant anemometric measurements and energy production study specifically for the site considered in this CPA. The resulting Wind Certification /**Ref-12**/ reports a Plant Load Factor (PLF) of 36.1%. Thus, the DOE was able to validate the PLF as being in accordance with the "Guidelines for the reporting and validation of plant load factors" version 01 /**Ref-J**/, paragraph 3(b).
Considering the plant's installed capacity – 9 MW, as previously presented in Section 3.2 –, the PLF of 36.1% and that it is forecasted to be operational 8,760 hours/year, the electricity estimated to be generated by the plant is 28,494 MWh/year, as determined by Camargo Schubert's Wind Certification /**Ref-12**/.
As described in the PoA-DD, the calculation of the combined margin CO_2 emission factor for grid connected power generation ($EF_{grid,CM,y}$) follows the steps established in the "*Tool to calculate the emission factor for an electricity system*". For methodological choices and details as to how the emission factor was calculated, please refer to the PoA. The final results to be applied while calculation the emission reductions by each CPA are presented below.

$EF_{grid,CM,y} = 0.3941\ tCO_2e/MWh$

The DOE has cross-checked the data on the calculation of $EF_{grid,CM,y}$, presented in the Specific CPA-DD version 04 /**Ref-27**/ and in the Emission Reductions Calculation Spreadsheet version 02 /**Ref-11**/, by accessing Brazilian DNA's web link, where relevant OM and BM data is officially published[*].

Finally, baseline emissions can be determined applying the results of $EG_{facility,y}$ and $EF_{grid,CM.y}$ to Equation 1 as follows,
$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$
$EG_{PJ,y} = EG_{facility,y} = 28{,}494$ MWh
$BE_y = 93{,}699 MWh * 0.3941\ tCO_2/MWh$
$BE_y = 11{,}229\ tCO_2$

Note on the Brazilian Combined Margin Emission Factor Validation
In order to comply with the guidance provided by the EB-CDM, on its 43rd meeting, regarding the validation of grid emission factors made available to project participants for use in CDM project activities by some DNAs, the Brazilian DNA sent, in January 2009, official letters addressed to several DOEs inviting them for a meeting with the purpose to grant the opportunity for the DOEs to have access to the calculation of the emission factor of the national grid system.

[*] Available at http://www.mct.gov.br/index.php/content/view/74689.html. Accessed on 28/03/2012.

The DOEs representatives had access to confidential data and were requested by Mr. Miguez from the Brazilian DNA that such information must not be disclosed for national strategic and market reasons.
The DOEs members had the opportunity to: i) assess the formulae used in the calculation spreadsheet; ii) to be informed about the sources of data and information used in the calculation spreadsheet; and, iii) to discuss and to take note of the assumptions adopted by the calculation working group from the Brazilian DNA.
A new meeting was conceded by the Brazilian DNA in order to allow two DOEs representatives to check the findings of the first meeting of 05 February 2009 regarding the Brazilian grid emission factor calculation again.
The second meeting took place in MCT's office, located at Praia do Flamengo, n° 200 – 7th floor, Rio de Janeiro, on 24 July 2009. The following participants attended the meeting: Mr. Newton Paciornik and Ms. Ana Carolina Avzaradel, both from MCT, on behalf of the Brazilian DNA, and; Mr. Ricardo Fontenele (BVC Holding SAS) and David Freire da Costa (DNV), both representing the group of DOEs.
During this second meeting, the DOEs' representatives were able to assess and verify a larger range of samples used in the emission factor calculation spreadsheets. Operating Margin (OM) and Build Margin (BM) data, sources, references, formulas and calculation were verified for the years 2007 and 2008. For the year 2009, only the OM calculation was verified, because the BM for the referred year would only be calculated after the end of 2009, as the Brazilian DNA needs to gather annual consolidated information from the power plants serving the Interconnected National System. In addition, the results of the emission factor calculation spreadsheets were cross-checked with the information made available at the Brazilian DNA website, on a sampling basis, and no discrepancy or inconsistencies of the verified values were found.
The second meeting, on 24 July 2009, was extremely useful for the DOEs' members to assess cross-check and verify complementary data and related information used in the emission factor calculation spreadsheets, given even more credibility and assurance of the calculation provided by the Brazilian DNA.
It was a common sense of the DOEs members, that the calculations provided in the spreadsheet are clearly and transparently demonstrated. The formulae, equations and steps followed in the calculations were found to be in accordance to the "Tool to calculate the emission factor for an electricity system Version 01.1" (valid version at the time). The assumptions made in the calculations were considered reasonable and acceptable.
Under consideration of the general conditions, the group of DOEs expressed a final favorable validation opinion in regards of the results from the calculation of the emission factor of the Brazilian grid system provided by the Brazilian DNA.

Observation: It has been noticed that, during EB 63 meeting it has been approved the version 02.2.1 of the "Tool to calculate the emission factor for an electricity system". The DOE assessed this new version of the Tool and understands that the changes in version 02.2.1 don't affect the results of the emission factor as calculated by the Brazilian DNA and validated by the DOES during the meetings of February 2009 (1st meeting) and 24 July 2009 (2nd meeting).

Project Emissions (PE_y)

As explained in section E.6.1 of the PoA-DD, there are no sources of project emissions associated with the implementation of the proposed CPA.
Therefore, ***PE_y* = 0.**

Leakage Emissions (LE_y)

As explained in section E.6.1 of the PoA-DD, there are no sources of leakage emissions associated with the implementation of the proposed CPA.
Therefore, ***LE_y* = 0.**

Emission Reductions (ER_y)

According to ACM0002 emission reductions by a typical CPA are calculated as follows.

$$ER_y = BE_y - PE_y$$ **Equation 3**

Where,

ER_y = Emission reductions in year y (t CO_2e);

BE_y = Baseline emissions in year y (t CO_2);

PE_y = Project emissions in year y (t CO_2e).

Applying the results discussed above to Equation 3 we obtain,
$ER_y = BE_y - PE_y$
ER_y = 11,229 tCO_2 – 0 tCO_2
ER_y = 11,229 tCO_2

Based on the above assessment, the validation team hereby confirms that:
(a) All assumptions and data used by the project participants are listed in the PoA-DD, including their references and sources;
(b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA-DD;

(c) All values used in the PoA-DD are considered reasonable in the context of the proposed CDM project activity;
(d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PoA-DD.

The DOE has verified the data and parameters used in the equations, including references to any other data sources used, by cross-checking the Specific CPA-DD version 04 /**Ref-27**/ and the Emission Reductions Calculation Spreadaheet version 02 /**Ref-11**/ against the PoA-DD version 04 /**Ref-26**/, CPA-DD version 04 /**Ref-29**/, ACM0002 version 12.3.0 /**Ref-A**/, the "Tool to calculate the emission factor for an electricity system" version 02.2.1 /**Ref-C**/, the Wind Certification at the project site /**Ref-12**/ and during the site visit. Also by accessing Brazilian DNA's web link, where relevant data on the calculation of $EF_{grid,CM,y}$ is officially published*.

3.4 Additionality of the CPA

3.4.1 Start date of the CPA

Start date of the CPA is identified as 22/12/2013, which is the date when the PPA (Power Purchase Agreement) is expected to be signed.

As per definition of the Glossary of CDM terms version 06.0 /**Ref-I**/, the start date is, *in the context of a CDM project activity or PoA, the earliest date at which either the implementation or construction or real action of a CDM project activity or PoA begins.*

The earliest date, as per above definition, will be the date when the Power Purchase Agreement (PPA) is expected to be signed.

The DOE was able to validate this date, cross-checking the schedule of main events of this CPA, presented in the Specific CPA-DD version 04 /**Ref-27**/, against the evidence that wind energy auctions are being held on an yearly basis†, since 2009 /**Ref-36**/ and ANEEL's Ordinance 554/2011‡ /**Ref-35**/, which shows March 22nd as the date of the energy auction of 2012. This way, the expected reference auction date (22/03/2013) – as of which 9 months are expected until PPA's signature – has been appropriately considered by the project participants.

Bureau Veritas Certification confirms that the start date of the CPA is not prior to the commencement of the validation of the PoA, which is the date of the CDM-PoA-DD is first published for global stakeholder consultation.

* Available at http://www.mct.gov.br/index.php/content/view/74689.html. Accessed on 28/03/2012.
† See http://www.ccee.org.br/StaticFile/Arquivo/biblioteca_virtual/Precos/Diferen%C3%A7as_entre_os_Leil%C3%B5es.ppt.
‡ Available at: http://www.aneel.gov.br/cedoc/prt2011554mme.pdf.

3.4.2 Identification of alternatives (107)

The validation team considers the listed alternatives to be credible and complete.

3.4.3 Investment analysis (114)

The project proponent decided to use the "Tool for the demonstration and assessment of additionality" version 06.0.0 /**Ref-B**/, which refers to the "Guidelines on the assessment of investment analysis" version 05 /**Ref-F**/ and, therefore, these guidelines were used in the following analysis.

Validation Team adopted a five 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) Reviewing feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants;
d) Assessing the correctness of computations carried out and documented; and
e) 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 project IRR to demonstrate the additionality of the project. Additionality Tool /**Ref-B**/ permits the use of financial indicator, project 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, project 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 IRR as financial indicator to demonstrate the additionality of the project is appropriate conforms to the Additionality Tool /**Ref-B**/.
Benchmark: Based on the Additionality Tool /**Ref-B**/ which 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 shall be considered. Paragraph 13 from EB 62 Annex 05 which states that "In the cases of projects which could be developed by an entity other than the project participant the benchmark should be based on parameters that are standard in the market. The DOE's validation of the benchmark shall also include its opinion on 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." the validation team concluded that:
The WACC calculation is based on parameters that are standard in the market, considers the specific characteristics of the project type, and is not linked to the subjective profitability expectation or risk profile of this particular project developer.
Benchmark calculation description: **We** and **Wd** are, respectively, the weights of equity and debt typically observed at the sector. **We** is of 50%, and **Wd** of 50%. These numbers derive from the typical default leverage suggested in the tool of addtionality.
Kd is the cost of debt, which is observed in the market related to the project activity, and which already accounts for the tax benefits of contracting debts. **Kd** is of 4.71%, and also derives from long term loans applied to the sector in Brazil, and therefore is based on Brazilian Development Bank (from the Portuguese, "*Banco Nacional de Desenvolvimento Econômico e Social*" – BNDES)[*] financing endeavour credit line's interest rates. BNDES is the major provider of long-term loans in the country; it supplies the financing for small to large scale projects. Long-term loans are scarcely provided by commercial banks, and in general, these entities do not have competitive rates compared to the BNDES.
Ke is the cost of equity, estimated through the Capital Asset Pricing Model (CAPM). **Ke** is of 14.05%. **Ke** derives from a risk free rate plus the market risk premium adjusted to the sector through Beta. The risk-free rate, the market risk premium, and the Beta have been calculated based on publicly available data and presented to the DOE.
Plugging these numbers into WACC formulae:
WACC = 0.50 x 4.71% + 0.50 x 14.05% = 9.38%
Benchmark: 9.38%
The DOE confirms that all the data used and calculations applied for the benchmark, are clearly presented /**Ref-9**/, 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.

[*] See http://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/.

Input Values/Assumptions	Value	Means of validation
Installed capacity	9 MW	The DOE has validated the installed capacity, by reviewing the Wind Certification /**Ref-12**/.
Total Investment	BRL 4,025,328/ MW	It was cross-checked by using third parties available sources. The project's total investment per installed capacity is around USD 2.61 millions/MW – considering an exchange rate of 1.54 BRL/USD (official exchange rate on 25/07/2011 – date of Vestas Proposal, /**Ref-17**/) * and it was determined by a price index from Vestas /**Ref-17**/, from July 2011, and Cortez and Schneider engineering companies /**Ref-34**/ and /**Ref-33**/. The suitability was assessed by comparing such value with other projects. - Fuerza Eólica del Istmo Wind Farm (Mexico)† – USD 2.5 millions/MW; - Eléctrica del Valle de Mexico Wind Farm (Mexico)‡ – USD 2.6 millions/MW; - Los Cocos Wind Farm (Dominican Republic)§ – USD 2.7 millions/MW; 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. Although the wind farms used in the crosscheck have a higher installed capacity, the DOE understands that, due to expenses that do not vary according to the installed capacity, the comparison with bigger wind farms is more conservative, once the total investment/MW should be higher in smaller projects.

* http://www4.bcb.gov.br/pec/taxas/port/ptaxnpesq.asp?id=txcotacao, with parameters: starting date=25/07/2011, end date=25/07/2011

† http://cdm.unfccc.int/UserManagement/FileStorage/QU24R97J1OK0W63XVBLC5HG8TNZMAE. Accessed on 10/04/2012.

‡ http://cdm.unfccc.int/UserManagement/FileStorage/J1HGRV0CNP9LBQEWA7FT6MI8S3XD52. Accessed on 10/04/2012

§ http://www.oficinascomerciales.es/icex/cda/controller/pageOfecomes/0,5310,5280449_5282927_5284940_4315472_DO,00.html. Accessed on 10/04/2012.

O&M costs	BRL 115,000 per tower per year	It was cross-checked by using a third party available source. The validation team cross-checked this assumption with Matafongo Wind Farm project, reference number 5456 [*]. The referred project considered an O&M cost of USD 83,520/tower/year for the first 10 years and USD 112,752/tower/year for the subsequent period. Since the O&M cost of Muritiba is USD 57,500/tower/year, considering a 2 BRL/USD exchange rate, the DOE considered suitable the referred input value.
Sales price or energy price	Variable	The PP provided evidence for the the referred input value with a energy forecast from PSR /**Ref-14**/ a leading energy consulting company in Brazil and other countries. It is a study prepared to the project proponent which confirms all assumptions used in the investment analysis. PSR has been a global provider of technological solutions and consulting services in the areas of electricity and natural gas since 1987. The price of energy used is in accordance with energy prices for renewable energies in Brazil, as it was crosschecked with the result of the public auction held on August, 2011, whose average price was 102.07 BRL.[†]
Period of assessment	22 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 Vestas /**Ref-17**/, the operational lifetime is around 20 years.
ANEEL Fee	BRL 1.929 per kW per year	It was based and cross-checked with ANEEL's Dispatch 360/2011[‡] /**Ref-23**/, which supports the used input value.
Other costs	Land Lease: 1.30% of revenues Insurance: 0.27%of investment	Those are minor costs, which accounts for 4.15% of revenues. The PP necessary evidence for the land lease is presented in /**Ref-19**/. For the insure costs, the PP has provided an estimation based on other project estimates /Ref-15/ and /**Ref-16**/, which was crosschecked with the data presented in /**Ref-18**/, which poses the insurance costs as 0.4% of investment.

[*] http://cdm.unfccc.int/Projects/DB/BVQI1322487453.25/view.

[†] http://www.epe.gov.br/imprensa/PressReleases/20110817_1.pdf

[‡] Available at: http://www.aneel.gov.br/cedoc/dsp2011360.pdf.

Taxes	PIS: 0.65% COFINS: 3% Income Taxes: 2% Social Taxes: 1.08%	- PIS: Law nr. 10,637, December 31st, 2002 /**Ref-25**/ - COFINS: Law nr. 10,833, December 29th, 2003 /**Ref-20**/ - Income Taxes: Law nr. 9,430, December 27th, 1996 /**Ref-21**/ - Social Taxes: Law nr. 8,981, January 20th, 1995 /**Ref-22**/
TUSD	100% of BRL 7.43 per kW per month	In accordance with ANEEL's Resolution nr. 1,118/2011* /**Ref-24**/. The input value comes from the tariff of BRL 7.02 per kW per month, added to national taxes of BRL 0.41 per kW per month (5.5% of the tariff + taxes).
Investment Decision Date	27/10/2011	Since the project activity has an expected future start date, it is appropriate to consider the upload date of the PoA design documents for global stakeholder consultation.
PLF	36.1%	It was cross-checked by using a third party available source. The plant load factor was estimated by the wind certification company at 50% of probability (P50) /**Ref-12**/. The use of the wind certification report is in compliance with paragraph 3(b) of Annex11, EB 48.

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. It was also validated that the listed input values have been correctly applied in all calculations /**Ref-31**/. 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) Review feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants: since the project has not started operating, there are no financial reports. Moreover, there's no public announcement or review feasibility reports related to the project.

* Available at: http://www.aneel.gov.br/cedoc/reh20111118.pdf. Accessed on 10/04/2012.

d) Assessment of correctness of computation: BVC checked all formulas in all spreadsheets presented by the project proponent /**Ref-9**/ and /**Ref-31**/. 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 project 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.

e) 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 (± 10%). To confirm how solid the investment analysis is, project participants presented a sensitivity analysis varying the most important parameters: (i) increase in electricity generation, (ii) increase in the tariff and (iii) decrease in project expected investment.
The DOE has confirmed that the sensitivity analysis results presented in Section B.3 of the Specific CPA-DD are correct, by analysing /**Ref-31**/, thus confirming that the project activity is not financially attractive, since the project internal rate of return is lower than the benchmark in all scenarios.

Conclusion:
Project IRR:
Muritiba project activity – 1.77% (real terms)
PDD's Benchmark – 9.38% (real terms)

Based on the foregoing, BVC has concluded that the project activity faces investment constraint in as much as the project 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 2 and CARs BQA 1 to 5 were issued and they have been satisfactorily solved and closed. Refer to Appendix A.

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

3.4.4 Barrier analysis (118)

The project participants have not demonstrated the project activity's additionality based on a barrier analysis.

3.4.5 Common practice analysis (121)

The common practice analysis of a typical CPA shall be conducted analysing wind power plants implemented within the PoA's boundary, by applying the stepwise approach presented in section E.5.1 of the CDM-PoA-DD to official and publicly available database (e.g. ANEEL database). If any similar option is identified, it shall be discussed why the existence of a similar project does not contradict the outcome of step 2 and/or 3 of the additionality test.

The result for each one of the steps described in the PoA-DD is:

Step 1: The installed capacity of the plant being considered in the proposed CPA is 9 MW. Therefore, only wind power plants possessing an installed capacity ranging from 4.5 MW to 13.5 MW are going to be considered.

Step 2: The wind power plant considered in the proposed CPA is located in the Rio de Janeiro state. Therefore, plants located in this state which are not considered in CDM Projects Activities are taken into account. In addition, the starting date of the project activity is after the commencement of the validation. Therefore, only plants that became operational before the proposed CPA was published for GSP (October 27th, 2011) were considered. The result is that $\mathbf{N_{all} = 0}$.

Step 3: As discussed above in Step 2, no similar wind power plant located in Rio de Janeiro was identified. Hence, $\mathbf{N_{diff} = 0}$.

Step 4: From the results discussed above, we have:
$N_{all} - N_{diff} = 0 < 3$ and,
$F = 1 - N_{diff} / N_{all} = 0 < 0.2$

No comparable activities occur without incentives. So the project cannot be considered common practice and therefore it is not a business as usual type scenario. In this sense, it is clear that, in the absence of the incentive created by the CDM, this project would not be the most attractive scenario.

So the proposed CPA is additional since it meets the eligibility criteria listed in the PoA-DD, as discussed above.

The geographical scope of the common practice analysis has been validated by cross checking the related information presented on the PoA-DD, Section E.5.1, sub-item Step 4. Common practice analysis – Step 2 (ii) Applicable Geographical Area.

The DOE has undertaken an assessment of the existence of similar projects, by cross-checking the CPA-DD and related information presented on the PoA-DD, Section E.5.1, sub-item Step 4. Common practice analysis – Step 2 (ii) Applicable Geographical Area, against the common practice file "Muritiba_Prática Comum_2012.02.17" /**Ref-13**/ and the source http://www.eletrobras.com/elb/data/Pages/LUMISABB61D26PTBRIE.htm.

The DOE was able to confirm that there are no widely observed and commonly carried out projects, by cross-checking the CPA-DD and related information presented on the PoA-DD, Section E.5.1, sub-item Step 4. Common practice analysis – Step 3, against the common practice file "Muritiba_Prática Comum_2012.02.17" /**Ref-13**/ and the source http://www.eletrobras.com/elb/data/Pages/LUMISABB61D26PTBRIE.htm.

The DOE cross-checked data provided in Specific CPA-DD version 04 and common practice file "Muritiba_Prática Comum_2012.02.17" against ANEEL's official database*, containing all power plants operating in Brazil, and CDM project database†.

The validation team hereby confirms that the proposed CPA is not common practice.

3.5 Monitoring plan (124)

The validation team 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 programme design are described below.

In accordance with the monitoring methodology ACM0002, version 12.3.0, the main parameters that need to be monitored are the quantity of net electricity generation supplied by the project plant/unit to the grid in year

* Available at: www.aneel.gov.br/15.htm.

† Available at: http://cdm.unfccc.int/Projects/projsearch.html.

y ($EG_{facility,y}$) and the combined margin CO_2 emission factor for grid connected power generation in year y ($EF_{grid,CM,y}$).

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.

In addition, there will be another meter at the substation (backup) to ensure that electricity will be properly measured.

The Project sponsor of **Erro! Fonte de referência não encontrada.** Wind Power Plant will proceed with the necessary monitoring measures as established in the procedures detailed in the CDM-PoA-DD form.

The DOE has verified the monitoring arrangements by cross-checking them against the PoA-DD version 04 /**Ref-26**/, the CPA-DD version 04 /**Ref-29**/, ACM0002 version 12.3.0 /**Ref-A**/ and the Wind Certification /**Ref-12**/.

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

3.6 Environmental impacts (133)

The CME has undertaken an analysis of environmental impacts at CPA level.

In general, the environmental impacts of a wind power plant are considered small given the other sources of electricity generation. As per Resolution nr. 279/2001 /**Ref-37**/, issued by the National Environmental Council – CONAMA (from the Portuguese, "*Conselho Nacional do Meio Ambiente*") Wind Power Plants must do a simplified environmental impact assessment in order to obtain the necessary permits to the project. Permits required by this resolution are:

- The Preliminary Permit (Licença Prévia or LP);
- The Construction Permit (Licença de Instalação or LI); and
- The Operating Permit (Licenca de Operação or LO).

The process starts with a previous analysis (preliminary studies) conducted by the project sponsor which is submitted to the environmental agency. Once the environmental local agency has a positive understanding about the environmental project concept, the Preliminary Permit (LP) is issued.

In order to obtain the Construction Permit (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 Permit (LO) is a result of pre-operational tests during the construction phase to verify if all exigencies made by environmental local agency were completed.

The simplified environmental impact assessment developed specifically to the **Erro! Fonte de referência não encontrada.** Wind Power Plant evaluated the possible impacts occurring during two different phases of the project implementation: construction and operation. The impacts were also classified according to its effect (positive or negative), duration (short term or long term), scope (local or regional), reversibility (reversible or not). Depending of the identified impact, mitigation measures were proposed.

Negatives impacts are mostly expected to occur during the implementation phase and are related to influences in the soil, air quality, and vegetation. Examples of these impacts are the increase in the particulate matter production due to the construction, vegetation suppression, noise, fauna disturbances and erosion. However, the duration of these impacts is short (only while the project is being constructed) and the majority of them are reversible and fully mitigated.

Positive impacts are expected to be observed since in the socio-economic field. The implementation of wind farms commonly increases job opportunities and municipal income trough the payment of royalties. In contrast with the negative aspects, these impacts are forecasted to occur in the operational phase of the project, have a long duration and a regional influence.

The CPA implementer has already presented the relevant environmental assessment to the local environmental agency, while requesting the preliminary environmental permit.

As stated above, the Preliminary License will only be issued after the approval of the simplified environmental impact assessment.

The DOE was able to confirm such request, dated 17/03/2011, and the submission of the simplified environmental impact assessment, based on the protocol /**Ref-38**/ issued by INEA (the environmental agency of the state of Rio de Janeiro). The DOE also confirmed such assessment is in accordance with the procedures as required by the host Party, by reviewing it /**Ref-32**/ and analysing CONAMA's Resolution 279/2001 /**Ref-37**/.

3.7 Local stakeholder consultation (130)

The CME has undertaken the local stakeholder consultation at PoA level.

4 ELIGIBILITY CRITERIA (167)

As described above, validation team has assessed the CPA against the eligibility criteria specified in the PoA-DD. Please refer to Table 1 of the Appendix A for details.

Complying with paragraph 167/VVM, Validation team confirms the compliance with the requirements set in the PoA-DD.

5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Muritiba Wind Power Plant CPA in Brazil to be included in Omega Wind Power Plants Programme of Activities. 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 design and the baseline and monitoring plan; ii) follow-up interviews with stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

By reviewing VVM, Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities, Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities /**Ref-H**/, etc, Bureau Veritas Certification is of the opinion that management system of CME is robust and efficient to ensure eligibility and quality of CPAs. Eligibility criteria are sufficient so that the inclusion of CPAs could fulfill all requirements of EB rules. Emission reductions attributable to Muritiba Wind Power Plant CPA, under the PoA, are additional to any that would occur in the absence of the PoA. Given that the CPA is implemented and maintained as designed, the DOE hereby confirms that the estimated amount of 78,603 tCO_2e emission reductions, during the 1st crediting period, is correct.

The review of the CPA-DD version 04 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

CPA is correctly included in the Omega Wind Power Plants Programme of Activities.

6 REFERENCES

Category 1 Documents:

Documents provided by Omega Energia Renovável S.A., Zeta Energia S.A. and Ecopart Assessoria em Negócios Empresariais Ltda that relate directly to the GHG components of the PoA.

/1/ PoA-DD version 01, dated 04 October 2011

/2/ PoA-DD version 02, dated 17 February 2012

/3/ PoA-DD version 03, dated 16 March 2012

/4/ Specific CPA-DD version 01, dated 04 October 2011

/5/ Specific CPA-DD version 02, dated 17 February 2012

/6/ Specific CPA-DD version 03, dated 16 March 2012

/7/ Excel file WACC ElectricGen_2011 01

/8/ Excel file WACC ElectricGen_2011 01 v.2

/9/ Excel file WACC ElectricGen_2011 01 v.3

/10/ Emission Reductions Calculation Spreadsheet - Muritiba_CERs_2011.9.08_v.1

/11/ Emission Reductions Calculation Spreadsheet - Muritiba_CERs_2012.02.17_v.2

/12/ Camargo Schubert's Wind Certification (Anemometric Measurements and Energy Production) Report C&S-CPE 628/11(r-3), dated 17/09/2011

/13/ Common practice file "Muritiba_Prática Comum_2012.02.17"

/14/ PSR's Report on Supply Perspective, Supply Tariff and Energy Price in the Incentivated Market, dated June 2011

/15/ Insurance policy from Hydropower Pipoca S.A. (RO) from October 28, 2010 – Fairfax Brasil

/16/ Insurance policy from Hydropower Pipoca S.A. (RCG) from October 29, 2010 – Fairfax Brasil

/17/ Vestas Technical and Commercial Tender Ref. 25211-PR-OME-V100-2.0-95m REVISION 0, dated 25.07.2011

/18/ Wind Energy FactsVolume 2 (costs and prices), page 8

/19/ Contract for land lease, signed by CPA implementer, dated 01/04/2011

/20/ Law nr. 10,833, December 29th, 2003 - http://www.receita.fazenda.gov.br/legislacao/leis/2003/lei10833.htm

/21/ Law nr. 9,430, December 27th, 1996 - http://www.receita.fazenda.gov.br/legislacao/leis/ant2001/lei9430 96.htm

/22/ Law nr. 8,981, January 20th, 1995 - http://www81.dataprev.gov.br/sislex/paginas/42/1995/8981.htm

/23/ ANEEL's Dispatch 360, dated 04/02/2011

/24/ ANEEL's Resolution nr. 1,118, dated 01/03/2011

/25/ Law nr. 10,637, December 31st, 2002 - http://www.receita.fazenda.gov.br/legislacao/leis/2002/lei10637.htm

/26/ PoA-DD version 04, dated 10 April 2012

/27/ Specific CPA-DD version 04, dated 10 April 2012

/28/ CPA-DD (Generic) versions 01, 02 and 03

/29/ CPA-DD (Generic) version 04, dated 10 April 2012

/30/ FCF_Muritiba_EQAO versions v.1, v.2 and v.3

/31/ FCF_Muritiba_EQAO_Final_v.4

/32/ Simplified Environmental Report (from the Portuguese, "*Relatório Ambiental Simplificado*" – RAS), dated March 2011

/33/ Investment Cost Evidence: Planilha de Preços Complexo Eólico Parnaiba - Rev.2 OPÇÃO VESTAS.pdf

/34/ Investment Cost Evidence: Carta Proposta Delta do Parnaiba Rev03.pdf

/35/ ANEEL's Ordinance nr. 554, dated 23/09/2011

/36/ CCEE's presentation on *Differences between Auctions*, dated 02/04/2012

/37/ CONAMA's Resolution nr. 279, dated 27/06/2001

/38/ INEA's protocol related to process E.07/502507/11, dated 17/03/2011

Category 2 Documents:

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

/A/ Methodology ACM0002, version 12.3.0

/B/ Tool for the demonstration and assessment of additionality, version 06.0.0

/C/ Tool to calculate the emission factor for an electricity system, version 02.2.1

/D/ Validation and Verification Manual, version 01.2, EB 55, dated 30/07/2010

/E/ CDM PoA/CPA forms, version 01

/F/ Guidelines on the Assessment of Investment Analysis version 05

/G/ Procedures for registration of a Programme of Activities as a single CDM Project Activity and issuance of certified emission reduction for a Programme of Activities, version 04.1

/H/ Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, version 1

/I/ Glossary of CDM Terms (version 06.0) EB 66 ANNEX 63

/J/ Guidelines for the Reporting and Validation of Plant Load Factors - EB 48, Annex 11 version 01

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/ João Antonio R. da Cunha (strategy analyst, from Omega Energia Renovável S.A.)

/2/ Ademar de Proença Filho (New Businesses, from Zeta Energia S.A.)

/3/ Ana Paula Veiga (consultant, from Ecopart Assessoria em Negócios Empresariais Ltda.)

7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Bureau Veritas Certification – Lead Verifier

Marcelo A. Porto – Graduated in Electrical Engineering, with a graduate specialization in Quality Engineering and a Master's degree in Industrial Engineering. Quality management expert and auditor, he worked in the electro-electronic, mechanical, medical devices, leather and shoes industries. ISO 9001 and SA8000 auditor, he is also trained as ISO 14001 and OHSAS 18001 lead auditor. Marcelo is qualified as Lead Verifier GHG – Green House Gases.

Bureau Veritas Certification – Financial Specialist

Bernardo A. Lima – 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.

Bureau Veritas Certification – Financial Specialist

Antonio Vinicius – is graduated in Industrial Engineering and holds a MBA from Coppead/UFRJ School of Businees with previous experience in economic assessment of greenfield projects in electrical sector, as well as projects related to renewable energy and energy conservation.

Bureau Veritas Certification – Internal Technical Reviewer

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.

APPENDIX A: CDM COMPONENT PROJECT ACTIVITY VALIDATION PROTOCOL (VERSION 04)

Table 1 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2)

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			*COUNTRY A (Brazil)*	*COUNTRY B (United Kingdom of Great Britain and Northern Ireland)*		
a. Have all Parties involved approved the project activity?	VVM	44	Please refer to item 1.b below	**CL01:** Please, inform the present situation of the approval by the United Kingdom of Great Britain and Northern Ireland.	CL01	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 participatn 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 24/11/2011).	See CL01.	CL01	OK
c. Does the letter of approval from DNA of each Party involved:	VVM	45	-	-	-	-
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	Please refer to item (1.b) above.	See CL01	CL01	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
ii. confirm that participation is voluntary?	VVM	45.b	Please refer to item (1.b) above.	See CL01	CL01	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.	See CL01	CL01	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.	See CL01	CL01	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.	See CL01	CL01	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.	See CL01	CL01	OK
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	Please refer to item (1.b) above.	See CL01	CL01	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.	See CL01	CL01	OK
2. Participation			*PP1, PP2, PP3 (Omega Energia Renovável S.A., Zeta Energia S.A., Ecopart Assessoria em Negócios Empresariais Ltda.)*	*PP4 (Deutsche Bank AG, London Branch)*		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	Yes	Yes	OK	OK
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.	See CL01.	CL01	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	Yes	Yes	OK	OK
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	Yes	Yes	OK	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.	See CL01.	CL01	OK
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	No		OK	OK
g. Has the approval of participation issued from the relevant DNA?	VVM	53	Please, refer to item (1.b) above.	See CL01.	CL01	OK
h. Is there doubt with respect to (g) above? I	VVM	53	Please, refer to item (1.b) above.	See CL01.	CL01	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	Please, refer to item (1.b) above.	See CL01.	CL01	OK
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	Yes		OK	OK
b. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	See CAR21, CAR22, CAR32 and CAR33. **CAR01:** CPA-DD v1, in the header of all pages, does not contain the name/title of the PoA. **CAR02:** CPA-DD v1, Section A.1, presents a title, *Muritiba Wind Power Plant CPA*, which does not follow the generic title form, established in CPA-DD v1 Generic. Besides, CPA-DD Generic, Section A.1, should		CAR01 to CAR15 CAR21 CAR22 CAR32	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			not specify version and date, because both will be specified upon the inclusion of each CPA. **CAR03:** CPA-DD v1, Section A.4.1, is blank. **CAR04:** CPA-DD Generic, Section A.4.2.2, does not include a generic sentence (e.g. *The expected operational lifetime for the CPA is […] years*.). **CAR05:** CPA-DD Generic, Section A.4.3.1, requests only the "FIRST YEAR OF OPERATION" to be filled. **CAR06:** CPA-DD v1, sections A.4.4 and B.5.3, and CERs Calc spreadsheets v1 present inverted values for 2015 and 2022. Besides, "2014" is incorrect in Cell B17, <Table A.4.4.>. **CAR07:** Section B.2 of both CPA-DDs (Muritiba's v1 and Generic), in the second eligibility condition, fails to state that a CPA may consist of a capacity addition to an operational wind power plant. **CAR08:** Section B.2 of both CPA-DDs (Muritiba's v1 and Generic) is not in accordance with Section A.4.2.2 of Poa-DD v01. **CAR09:** PoA-DD v01, Section E.5.1, and both CPA-DDs (Muritiba's v1 and Generic), Section B.3, present discrepant formulae for *Kd* and *Ke*. **CAR10:** Tables 5, in PoA-DD v01 and Muritiba's CPA-DD v1, and Table 4, in CPA-DD Generic, present discrepant list/identification of parameters. **CAR11:** PoA-DD v01, Section E.5.1, and both CPA-DDs (Muritiba's v1 and Generic), Section B.3, present first paragraphs under "*Financial Indicator – Internal rate of return (IRR)*" which are not aligned. **CAR12:** CPA-DD Generic, Table 7, presents a value	CAR33 CL02 to CL12	

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			(*11.13%*) which shouldn't be there. Besides, Column header "*COST (1,000BRL)*" is not in line with Parameters' Column, in Table 4. **CAR13:** CPA-DDs (Muritiba's v1 and Generic), in Section B.4, incorrectly refer to A.4.2. **CAR14:** First equation of Section B.5, in both CPA-DDs (Muritiba's v1 and Generic), needs to be corrected, i.e. $EG_{facility,y}$ is to be replaced by $EG_{PJ,y}$. Besides, in CPA-DD Generic, capacity additions have not been considered. Finally, please, renumber equations in CPA-DD Generic, since first equation has not been numbered. **CAR15:** CPA-DD Generic, Section B.6.1, has not considered capacity additions ($EG_{PJ\_Add,y}$). **CL02:** Please, in Section A.4.1.2, in CPA-DD, either remove the individual's name (*Marco Antônio Garcia*) from Muritiba's CPA-DD v1 or include individual's name in CPA-DD Generic. **CL03:** Please, provide the evidence that a relevant energy auction is expected to take place in August 2013 (Muritiba's CPA-DD v1, Section A.4.2.1). **CL04:** Please, adjust Section A.4.2.1 of CPA-DD Generic, in order to be more specific, considering what has been presented in Muritiba's CPA-DD v1. **CL05:** Please, provide evidence of the CPA's expected 20-year operational lifetime. **CL06:** Please, explain the starting date of the crediting period of the CPA. **CL07:** Please, inform the sources of data in CERs Calc spreadsheets v1, <Technical Description>. Besides,		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			provide updated wind study certificate. Document C&S-CPE 628/11 rev-01 was presented during office visit. **CL08:** Please, clarify why hasn't CDM project 843 been mentioned I CPA-DD v1, Section A.4.6. **CL09:** Please, clarify what "15" stands for in CPA-DD v1, Section A.4.6, second paragraph. **CL10:** Please, clarify why, in Section B.2 of the CPA-DDs, A.4.1.2 is being called for a detailed description of the CPA, once such section is limited to its identification. **CL11:** Please, adjust first paragraphs under "*Financial Indicator – Internal rate of return (IRR)*", in PoA-DD v01, Section E.5.1, and in both CPA-DDs (Muritiba's v1 and Generic), Section B.3, in order to have them in line with Guidance 3 of EB 62 Annex 5, since "*a maximum of 20 years will be appropriate*" "*if a shorter period* [shorter than the technical lifetime of the project activity] *is chosen*". **CL12:** Please, adjust Section B.3 of CPA-DD Generic, in order to be more specific, considering what has been presented in Muritiba's CPA-DD v1.		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
c. The completed CDM-POA-DD, the specific CDM-CPA-DD with generic information relevant to all CPAs and the completed CDM-CPA-DD which is to be based on the application of the PoA to one real case are established in mutual accordance?	EB 55	Annex 38	Refer to (3.b), above.	-	-
d. Specific questions for PoA-DD			-	-	-
i. On the item A.1 from the CDM-PoA-DD is the title of the programme of activities provided?	PoA form	v1	Yes, "*Omega* Wind Power Plants Programme of Activities".	OK	OK
ii. On the item A.2. from the CDM-PoA-DD, are the following information included:	PoA form	v1	-	-	-
ii.1 General operating and implementing framework of PoA.	PoA form	v1	**CL13:** Please, rewrite 2nd sentence of 4th paragraph, in order to make it clear that "construction" comprises greenfield and capacity addition CPAs. **CL14:** Please, provide a web link address related to footnotes 1 and 2, so that information can be verified.	CL13 CL14	OK
ii.2 Policy/mesure or stated goal of the PoA.	PoA form	v1	Yes	OK	OK
ii.3 Confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity.	PoA form	v1	Yes	OK	OK
iii. On the item A.3 from the CDM-PoA-DD, are the following information included:	PoA form	v1	-	-	-
iii.1 Coordinating or managing entity of the PoA as the entity which communicates with the Board.	PoA form	v1	Yes, Omega Energia Renovável S.A.	OK	OK
iii.2 Project participants being registered in relation to the PoA (Project participants may or may not be involved in one of the CPAs related to the PoA).	PoA form	v1	Yes. Omega Energia Renovável S.A., Zeta Energia S.A., Ecopart Assessoria em Negócios Empresariais Ltda. and Deutsche Bank AG, London Branch	OK	OK
iv. On the item A.4.1 from the CDM-PoA-DD	PoA	v1	**CAR16:** PoA-DD v01, Section A.4.1, is blank.	CAR16	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
is the Location of the programme of activities provided?	form				

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
v. On the item A.4.1.1 from the CDM-PoA-DD is the Host Party(ies) provided?	PoA form	v1	Yes, Brazil	OK	OK
vi. On the item A.4.1.2. from the CDM-PoA-DD, is the definition of the boundary for the PoA in terms of a geographical area (e.g., municipality, region within a country, country or several countries) within which all CDM programme activities (CPAs) included in the PoA will be implemented, taking into consideration the requirement that all applicable national and/or sectoral policies and regulations of each host country within that chosen boundary included?	PoA form	v1	Yes	OK	OK
vii. On the item A.4.2. from the CDM-PoA-DD is the Description of a typical CDM programme activity (CPA) provided?	PoA form	v1	**CAR17:** PoA-DD v01, Section A.4.2, is blank.	CAR17	OK
viii. On the item A.4.2.1. from the CDM-PoA-DD is the Technology or measures to be employed by the CPA provided?	PoA form	v1	**CAR18:** Figure 3, in PoA-DD v01, Section A.4.2.1, presents expression “Erro! Indicador não definido.”.	CAR18	OK
ix. On the item A.4.2.2. from the CDM-PoA-DD is a description of criteria for enrolling the CPA described?	PoA form	v1	Yes. However: **CAR19:** PoA-DD v01, Section A.4.2.2, as well as Section B.2 of both CPA-DDs (Muritiba’s v1 and Generic), are not in accordance with EB 65 Annex 3.	CAR19	OK
x. On the item A.4.3. from the CDM-PoA-DD are the following informations demonstrated?	PoA form	v1	-	-	-
x.1 The proposed PoA is a voluntary coordinated action.	PoA form	v1	Yes	OK	OK
x.2 If the PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the PoA.	PoA form	v1	**CL15:** Please, inform the sources of all information presented in PoA-DD v01, Section A.4.3 (ii).	CL15	OK
x.3 If the PoA is implementing a mandatory policy/regulation, this would/is not enforced.	PoA form	v1	The PoA is not implementing a mandatory policy/regulation.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
x.4 If mandatory a policy/regulation is enforced, the PoA will lead to a greater level of enforcement of the existing mandatory policy/regulation.	PoA form	v1	N/A	OK	OK
xi. On the item A.4.4.1. from the CDM-PoA-DD is a description of the operational and management arrangements established by the coordinating/managing entity for the implementation of the PoA, including:	PoA form	v1	**CL16:** Please, clarify the statement that the CME of this PoA is Omega Energia Renovável S.A., in conjunction with Zeta Energia S.A. **CL17:** Please, revise PoA-DD v01, Section A.4.4.1, in light of what has been verified during site visit.	CL16 CL17	OK
xi.1 A record keeping system for each CPA under the Poa.	PoA form	v1	See CL17.	CL17	OK
xi.2 A system/procedure to avoid double accounting e.g. to avoid the case of including a new CPA that has been already registered either as a CDM project activity or as a CPA of another PoA.	PoA form	v1	See CL17.	CL17	OK
xi.3 The provisions to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA.	PoA form	v1	See CL17.	CL17	OK
xii. On the item A.4.4.2. are the following informations provided.	PoA form	v1	-	-	OK
xii.1 Description of the proposed statistically sound sampling method/procedure to be used by DOEs for verification of the amount of reductions of anthropogenic emissions by sources or removals by sinks of greenhousse gases achieved by CPAs under the PoA.	PoA form	v1	**CAR20:** PoA-DD v01, Section A.4.4.2, does not specify whether amount of reductions of GHG emissions will be verified based on statistical sampling or not.	CAR20	OK
xii.2 In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA (whether in groups or not, with different or identical verification periods) a transparent system is to be defined and described that ensures	PoA form	v1	See CAR20. **CL18:** Please, provide information relevant to the requirements of EB 33 Annex 41, Section A.4.4.2 (ii), based on response to CAR20.	CAR20 CL18	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
that no double accounting occurs and that the status of verification can be determined anytime for each CPA.					
xiii. On the item A.4.5. from the CDM-PoA-DD are informations about the public funding of the programme of actvities (PoA) provided?	PoA form	v1	This programme of activities does not receive any public funding.	OK	OK
xiv. On the item B.1. rom the CDM-PoA-DD was the starting date of the programme of activities provided?	PoA form	v1	Yes. However: **CL19:** Please, update PoA-DD v01, Section B.1, informing date (27/10/2011) when PoA-DD was first published for global stakeholder consultation.	CL19	OK
xv. On the item B.2. rom the CDM-PoA-DD was the length of the programme of activities provided?	PoA form	v1	Yes. 28y – 0m.	OK	OK
xvi. On the item C.1. from the CDM-PoA-DD is indicate the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken?	PoA form	v1	Yes. CPA level.	OK	OK
xvi.1 On the item C.1. from the CDM-PoA-DD is the choice of level at which the environmental analysis is undertaken justified?	PoA form	v1	**CAR21:** PoA-DD v01 and both CPA-DDs (Muritiba's v1 and Generic), Section C.1, do not justify the choice of level at which the environmental analysis is undertaken. Additionally, please, make it clear what is meant by "local", in the context of environmental analysis. **CL20:** Please, adjust CONAMA's name in English. "Resolution" shouldn't be part of it. This CL applies to PoA-DD v01 and to both CPA-DDs (Muritiba's v1 and Generic).	CAR21 CL20	OK
xvi2. If this environmental analysis is not undertaken for the PoA but is to be done at the CPA level, is this described and reflected in the CDM-PoA-DD and the CDM-CPA-DD?	PoA form	v1	See CAR21.	CAR21	OK
xvii. On the item C.2. from the CDM-PoA-DD is the	PoA	v1	This will be provided at the CPA level.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
documentation on the analysis of the environmental impacts, including transboundary impacts provided?	form				
xviii. On the item C.3. from the CDM-PoA-DD is stated whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA) provided?	PoA form	v1	Yes	OK	OK
xix.1 On the item D.1. from the CDM-PoA-DD is it indicated the level at which local stakeholder comments are invited?	PoA form	v1	Yes. At the PoA level.	OK	OK
xix.2 Is the choice of level at which local stakeholder comments are invited justified?	PoA form	v1	**CAR22:** PoA-DD v01 and both CPA-DDs (Muritiba's v1 and Generic), Section D.1, do not justify the choice of level at which local stakeholder comments are invited.	CAR22	OK
xx. On the item D.2. from the CDM SSC-PoA-DD is a brief description of how comments by local stakeholders have been invited and compiled provided?	PoA form	v1	**CAR23:** PoA-DD v01, Section D.2, does not describe how comments by local stakeholders have been invited.	CAR23	OK
xxi. On the item D.3. from the CDM-PoA-DD is a summary of the comments received provided?	PoA form	v1	No comments have been received.	OK	OK
xxii. On the item D.4. from the CDM-PoA-DD is a report on how due account was taken of any comments received provided?	PoA form	v1	No comments have been received.	OK	OK
xxiii. On the item E.1. from the CDM-PoA-DD is the Title and reference of the approved baseline and monitoring methodologiy applied to each CPA included in the PoA?	PoA form	v1	Yes. ACM0002 – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Version 12.1.0). However: **CAR24:** PoA-DD v01, Section E.1, lists version 5.2.1 of the additionality tool, which is no longer valid (see EB 65).	CAR24	OK
xxiv. On the item E.2. from the CDM-PoA-DD is the justification of the choice of methodology and why it is	PoA form	v1	**CAR25:** PoA-DD v01, Section E.2, in the second applicability condition refers to page 10 of ACM0002,	CAR25 CL21	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
applicable to each CPA provided?			whereas page 11 is the correct one. **CL21:** Please, adjust text of paragraph right after second applicability condition, since it is not clear.		
xxv. On the item E.3. from the CDM-PoA-DD is the description of the sources and gases included in the CPA boundary provided?	PoA form	v1	Yes. However: **CAR26:** PoA-DD v01, Section E.3, Figure 5, refers to EG_y, whereas correct parameters are $EG_{facility,y}$ and $EG_{PJ\ Add,y}$.	CAR26	OK
xxvi. On the item E.4. from the CDM-PoA-DD is the description of how the baseline scenario is identified and description of the identified baseline scenario provided?	PoA form	v1	Yes	OK	OK
xxvii. On the item E.5. from the CDM-PoA-DD is the description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the CPA being included as registered PoA provided?	PoA form	v1	**CAR27:** PoA-DD v01, Section E.5, has been left blank.	CAR27	OK
xxvii.1. On the item E.5.1. from the CDM-PoA-DD did the PPs demonstrate, using the procedure provided in the baseline and monitoring methodology applied, additionality of a typical CPA?	PoA form	v1	See CAR24. **CAR28:** PoA-DD v01, Section E.5.1, in the identification of alternatives, does not include other types of power plants (e.g. hydro, biomass, fossil fuel).	CAR24 CAR28	OK
xxvii.2. On the item E.5.2. from the CDM-PoA-DD did the PPs provide the key criteria for assessing additionality of a CPA when proposed to be included in the registered PoA?	PoA form	v1	Yes	OK	OK
xxvii.3. On the item E.5.2. from the CDM-PoA-DD the criteria were based on additionality assessment undertaken in E.5.1.?	PoA form	v1	Yes	OK	OK
xxvii.4. On the item E.5.2. from the CDM-PoA-DD the PPs justified the choice of criteria based on analysis provided in E.5.1.?	PoA form	v1	**CAR29:** PoA-DD v01, Section E.5.2, does not include a justification of the choice of criteria for assessing additionality of a CPA.	CAR29	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
xxvii.5. On the item E.5.2. from the CDM-PoA-DD was demonstrated how these criteria would be applied to the additionality of a typical CPA at the time of inclusion?	PoA form	v1	Yes	OK	OK
xxvii.6. Was the information provided on the item E.5.2. from the CDM-PoA-DD incorporated into the CDM-CPA-DD that has been specified for this PoA?	PoA form	v1	Yes	OK	OK
xxviii. On the item E.6.1. from the CDM-PoA-DD was the explanation of methodological choices, provided in the approved baseline and monitoring methodology applied, selected for a typical CPA ?	PoA form	v1	**CAR30:** PoA-DD v01, Section E.6.1, does not make any reference to the choice between options 1 and 2 for the calculation of $EG_{PJ,y}$, in the case of capacity additions. **CAR31:** PoA-DD v01, Section E.6.1, presents a web link address which does not lead to the information in Table 6. **CL22:** Please, update Table 6, in PoA-DD v01, Section E.6.1, with 2011 data.	CAR30 CAR31 CL22	OK
xxix. On the item E.6.2. from the CDM-PoA-DD were the equations, including fixed parametric values, to be used for calculation of emission reductions of a CPA provided?	PoA form	v1	Yes	OK	OK
xxx. On the item E.6.3. from the CDM-PoA-DD are the data and parameters reported adequately?	PoA form	v1	**CAR32:** PoA-DD v01, Section E.6.3, does not list $DATE_{BaselineRetrofit}$. Please, when addressing this CAR, let it clear that $DATE_{BaselineRetrofit}$ applies to capacity addition CPAs.	CAR32	OK
xxxi. On the item E.7.1. from the CDM-PoA-DD are the data and parameters reported adequately?	PoA form	v1	**CAR33:** PoA-DD v01, Section E.7.1, does not list $EG_{PJ\_Add,y}$ nor $EF_{grid,CM,y}$. Please, when addressing this CAR, let it clear that $EG_{facility,y}$ applies to Greenfield CPAs and $EG_{PJ\_Add,y}$ to capacity addition CPAs. **CL23:** Please, adjust $EG_{facility,y}$ table, in PoA-DD v01, Section E.7.1, in accordance with ACM0002 v12.1.0.	CAR33 CL23	OK
xxxii. On the item E.7.2. from the CDM-PoA-DD was	PoA	v1	Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
the description of the monitoring plan for a CPA provided?	form				
xxxiii. On the item E.8. from the CDM-PoA-DD was the date of completion of the application of the baseline study and monitoring methodology and the name of the responsible person(s)/entity(ies) provided?	PoA form	v1	**CL24:** Please, adjust text of first sentence.	CL24	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	OK	OK
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	OK	OK
ii. acurate?	VVM	59	Yes	OK	OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Yes	OK	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	VVM	59	No	OK	OK
c. Is the proposed CDM project activity in existing facilities or utilizing existing equipments?	VVM	60	CPAs to be included in the PoA may include capacity additions to existing facilities.	OK	OK
d. Is the CDM project activity one of the following types:	VVM	60	-	-	-
i. Large scale?	VVM	60	Yes	OK	OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	No	OK	OK
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	No	OK	OK
e. If yes to (c) and (d) above, was a physical site	VVM	60	No, because at this point in time (05/12/2011, date of	OK	OK

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	inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?			visit to Zeta Energia's office, for doc review), there is no construction work neither equipments at the physical site.		
f.	If yes to (d.iii) above, was the number of physical site visits base on samping?	VVM	60	N/A	OK	OK
g.	If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	N/A	OK	OK
h.	For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	61	N/A	OK	OK
i.	For all other proposed CDM project activities not referred to in paragraphs 59 – 61, and for other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	62	N/A	OK	OK
j.	If no, was it appropriately justified?	VVM	62	N/A	OK	OK
k.	Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	No	OK	OK
l.	If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	N/A	OK	OK
	5. Baseline and monitoring methodology					
	a. General requirement					
a.	Do the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Yes	OK	OK

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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	Refer to (6) below, *Additionality of a project activity*.	-	-
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	See CAR24.	CAR24	OK
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Refer to (7) below, *Monitoring plan*.	-	-
b. Applicability of the selected methodology to the project activity					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity including that the used version is valid?	VVM	68	Yes	OK	OK
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	ACM	0002	Yes. A typical CPA will either be (a) a greenfield plant or (b) involve a capacity addition.	OK	OK

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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).					
b. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	N/A	OK	OK
c. Is the methodology correctly quoted?	VVM	70	Yes	OK	OK
d. Are the applicability conditions of the methodology met?	VVM	71	See CAR25 and CL21.	CAR25 CL21	OK
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	OK	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 project activity.	ACM	0002	N/A	OK	OK
iii. In case of hydro power plants, one of the following	ACM	0002	N/A	OK	OK

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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/m2; or - The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2.					
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/m2.	ACM	0002	N/A	OK	OK
v. In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual	ACM	0002	See CAR19.	CAR19	OK

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maintenance".					
e. Is the proeject activity expected to result in emissions other than those allowed by the methodology?	VVM	71	No	OK	OK
f. Is the choice of the methodology justified?	VVM	71	Yes	OK	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	OK	OK
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	OK	OK
j. If yes, was the PDD cross checked agains 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 other sources are: - The simplified environmental impact assessment: *CGE Muritiba RAS, Relatório Ambiental Simplificado, March 2011* - Wind study certificate C&S-CPE 628/11 rev-01	OK	OK
k. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	Yes	OK	OK
l. If no, clarification of the methodoloy was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	N/A	OK	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	N/A	OK	OK

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n. If yes to (5.b.l) and (5.b.m) above, a request for registration was submited before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	N/A	OK	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 the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?	VVM	78	See Section 3 above for a discussion on project boundary.	-	-
i. Does the extent of the project boundary, as described in the PDD, includes 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	OK	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	OK
b. Is the delineation in the PDD of the project boundary correct?	VVM	79	Yes. However, see CAR26.	CAR26	OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	79	Yes	OK	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	OK	OK
e. Have all sources and GHGs required by the methodology been included within the project	VVM	79	Yes	OK	OK

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boundary?					
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	OK	OK
g. If yes, have the project participants justified that choice?	VVM	79	N/A	OK	OK
h. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	79	N/A	OK	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	OK	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	OK
i. If the project activity is the installation a new grid-connected renewable power plant/unit (greenfield plant), is the baseline scenario identified appropriately in accordance with the ACM0002 ver.12.1.0?	ACM	0002	Yes	OK	OK
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	See CAR32.	CAR32	OK

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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	N/A	OK	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	N/A	OK	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	N/A	OK	OK
vi. If more than one alternative is remaining after 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)	ACM	0002	N/A	OK	OK
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	No	OK	OK
d. If yes, was the methodology consulted on the application of thes tools? (In such cases, the guidance	VVM	82	N/A	OK	OK

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in the methodology shall supersede the tool.)					
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	No	OK	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	N/A	OK	OK
g. Has any reasonable alternative scenario been excluded?	VVM	83	N/A	OK	OK
h. Is the baseline scenario identified reasonably supported by:	VVM	84	-	-	-
i. Assumptions?	VVM	84	The baseline scenario is identified in ACM0002.	OK	OK
ii. Calculations?	VVM	84	The baseline scenario is identified in ACM0002.	OK	OK
iii. Rationales?	VVM	84	The baseline scenario is identified in ACM0002.	OK	OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	84	The baseline scenario is identified in ACM0002.	OK	OK
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (idendify the sources)	VVM	84	The baseline scenario is identified in ACM0002.	OK	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 baseline scenario is identified in ACM0002.	OK	OK
l. Have all relevatn policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	85	The baseline scenario is identified in ACM0002.	OK	OK
m. Does the PDD provide a verifiable description of the identified baseline scenario, including a description of	VVM	86	Yes, two baseline scenarios. One for greenfiled CPAs and another for capacity addition CPAs.	OK	OK

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the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?					
e. Algorithms and/or formulae used to 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	Please refer to Section 3, above.	-	-
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	90	Please refer to Section 3, above.	-	-
i. Are the Project emissions appropriately calculated?	ACM	0002	Please refer to Section 3, above.	-	-
ii. Are the Baseline emissions appropriately calculated specifically for (a)greenfield plants or (b) retrofit and replacements or (c) capacity additions?	ACM	0002	Please refer to Section 3, above.	-	-
iii. Are the Leakage appropriately calculated?	ACM	0002	Please refer to Section 3, above.	-	-
iv. Are the Emission reductions appropriately calculated?	ACM	0002	Please refer to Section 3, above.	-	-
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 (EFCM,grid,y) is determined ex post during monitoring, project participants may use models or other tools to estimate the emission reductions prior to validation.	ACM	0002	Please refer to Section 3, above.	-	-
d. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	Please refer to Section 3, above.	-	-

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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	Please refer to Section 3, above.	-	-
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	Please refer to Section 3, above.	-	-
h. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91	Please refer to Section 3, above.	-	-
i. Appropriate and correct?	VVM	91	Please refer to Section 3, above.	-	-
ii. Applicable to the proposed CDM project activity?	VVM	91	Please refer to Section 3, above.	-	-
iii. Resulting in a conservative estimate of the emission reductions?	VVM	91	Please refer to Section 3, above.	-	-
i. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	Please refer to Section 3, above.	-	-
j. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	91	Please refer to Section 3, above.	-	-
6. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM projet activity is additional?	VVM	94	Yes. The CDM-PoA-DD at Section E.5.1. states that in accordance with the procedures provided in the baseline and monitoring methodology ACM0002, the additionality of a typical CPA must be assessed and demonstrated through the application of the "*Tool for the demonstration and assessment of additionality*".	OK	OK
b. Does the CDM-PDD state the latest version of the additionality tool being used?	ACM	0002	See CAR24.	CAR24	OK
c. Were the following steps of the tool to assess	EB	Ann	-	-	-

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additionality used:	39	10			
i. Identification of alternatives to the project activity?	EB 39	Ann 10	Yes. See (6.d) below.	-	-
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. Please refer to Section *Investment Analysis*, below.	OK	OK
iii. Barriers analysis?	EB 39	Ann 10	The additionality of the project activity has not been demonstrated by barriers.	OK	OK
iv. Common practice analysis?	EB 39	Ann 10	Yes. However, see CAR24.	CAR24	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	See CAR28.	CAR28	OK
ii. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	See CAR28.	CAR28	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	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	See CAR28.	CAR28	OK
iii. (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Yes	OK	OK

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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	See CAR28	CAR28	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	See CAR28.	CAR28	OK
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	See CAR28.	CAR28	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	See CAR28.	CAR28	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	See CAR28.	CAR28	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 PPs selected Step 2 – Investment Analysis.	OK	OK

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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 *Investment Analysis*, below.	-	-
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	Not applied. Please refer to Section *Investment Analysis*, below.	-	-
iii. Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	Not applied. Please refer to Section *Investment Analysis*, below.	-	-
iv. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Yes. Please refer to Section *Investment Analysis*, below.	-	-
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 *Investment Analysis*, below.	-	-
vi. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Yes. Please refer to Section *Investment Analysis*, below.	-	-
m. In sub-step 2a has the determination of appropraite method of analysis done as per the guidance as below?	EB 39	Ann 10	Please refer to Section *Investment Analysis*, below.	-	-
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 *Investment Analysis*, below.	-	-
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 *Investment Analysis*, below.	-	-
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 Step1 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 *Investment Analysis*, below.	-	-

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o. Has the below guideline followed for sub-step 2b 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	EB 39	Ann 10	Please refer to Section *Investment Analysis*, below.	-	-
p. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	Please refer to Section *Investment Analysis*, below.	-	-
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 *Investment Analysis*, below.	-	-
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 *Investment Analysis*, below.	-	-
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 cost of financing and required return on capital (e.g. commercial lending rates and	EB 39	Ann 10	Please refer to Section *Investment Analysis*, below.	-	-

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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 *Investment Analysis*, below.	-	-
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 (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	EB 39	Ann 10	Please refer to Section *Investment Analysis*, below.	-	-

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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 *Investment Analysis*, below.	-	-
iii. Justify and/or cite assumptions.	EB 39	Ann 10	Please refer to Section *Investment Analysis*, below.	-	-
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 *Investment Analysis*, below.	-	-
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	Please refer to Section *Investment Analysis*, below.	-	-
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	Please refer to Section *Investment Analysis*, below.	-	-
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 reasonable variations in the critical assumptions.	EB 39	Ann 10	Please refer to Section *Investment Analysis*, below.	-	-
s. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Please refer to Section *Investment Analysis*, below.	-	-
t. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10	Additionality has not been demonstrated by barriers.	OK	OK
i. Sub-step 3a: Identify barriers that would prevent the	EB	Ann	Additionality has not been demonstrated by barriers.	OK	OK

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implementation of the proposed CDM project activity;	39	10			
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	Additionality has not been demonstrated by barriers.	OK	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	Additionality has not been demonstrated by barriers.	OK	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	Additionality has not been demonstrated by barriers.	OK	OK
ii. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain 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	EB 39	Ann 10	Additionality has not been demonstrated by barriers.	OK	OK

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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	Additionality has not been demonstrated by barriers.	OK	OK
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	Additionality has not been demonstrated by barriers.	OK	OK
v. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	Additionality has not been demonstrated by barriers.	OK	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	Additionality has not been demonstrated by barriers.	OK	OK
i. If the identified barriers also affect other alternatives, explain how they are affected less 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.	EB 39	Ann 10	Additionality has not been demonstrated by barriers.	OK	OK
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	Additionality has not been demonstrated by barriers.	OK	OK
iii. The type of evidence to be provided should include	EB	Ann	Additionality has not been demonstrated by barriers.	OK	OK

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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 associations and others. Please specify.	39	10			
x. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	Additionality has not been demonstrated by barriers.	OK	OK
y. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10	See CAR24.	CAR24	OK
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	See CAR24.	CAR24	OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	See CAR24.	CAR24	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	EB 39	Ann 10	See CAR24.	CAR24	OK

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whether and to which extent similar activities have already diffused in the relevant region.					
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 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.	EB 39	Ann 10	See CAR24.	CAR24	OK
bb. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	See CAR24.	CAR24	OK
cc. Has it been proved that the porject is additional?	EB 39	Ann 10	See CAR24.	CAR24	OK
dd. Has the PP demonstrated additionality by explaining Investment barrier, Access-to-finance barrier, Technological barrier, Barrier due to prevailing practice or other barriers?	EB 35	Ann 34	No	OK	OK
ee. If Investment barrier has been explained, is it demonstraed that financilly more viable alternative to the project activity would have led to higher	EB 35	Ann 34	N/A	OK	OK

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emissions? Please explain.					
ff. If Access-to-finance has been explained, is it demonstrated that the project activity could not access appropriate capital without consideration of the CDM revenues? Please explain.	EB 35	Ann 34	N/A	OK	OK
gg. If Technological barrier has been explained, is it demonstraed that a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertinity or low market share of the new technology adopted for the project activity and so would have led to higher emissions? Please explain.	EB 35	Ann 34	N/A	OK	OK
hh. If prevailing practise barrier has been explained, is it demonstrated that the prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions? Please explain.	EB 35	Ann 34	N/A	OK	OK
ii. If other barrier has been explained, is it demonstrated that Other barriers such as institutional barriers or limited information, managerial resources, organizational capacity, or capacity to absorb new technologies would prevent the project activity any way?	EB 35	Ann 34	N/A	OK	OK
jj. Have the project participants identifed the most relevant barrier?	EB 35	Ann 34	N/A	OK	OK
kk. Have the project participants provided transparent and documented third party evidence such as national/international statistics, national/provincial policy and legislation, studies/surveys by independent agencies etc. to demonstrate the most relevant	EB 35	Ann 34	N/A	OK	OK

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barrier? Please explain.					

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a. Prior consideration of the clean development mechanism					
a. Is the project ativity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	98	N/A	OK	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	N/A	OK	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	N/A	OK	OK
d. Does the project activity require construction, retrofit or other modifications?	VVM	99	N/A	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	N/A	OK	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	N/A	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the CDM Executive Board before the project activity start date, had the PP informed the Host Party DNA and/or 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	VVM	101	N/A	OK	OK

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host Party DNA and/or 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	N/A	OK	OK
i. 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	N/A	OK	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	101	N/A	OK	OK
ii. 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	N/A	OK	OK
a. contract with consultants for CDM/PDD/methodology services?	VVM	102	N/A	OK	OK
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	N/A	OK	OK
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	102	N/A	OK	OK
d. submission of a new methodology to the CDM Executive Board?	VVM	102	N/A	OK	OK

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e. publication in newspaper?	VVM	102	N/A	OK	OK
f. interviews with DNA?	VVM	102	N/A	OK	OK
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	102	N/A	OK	OK
h. Has the chronology of events including time lines been appropriately captured and explained/detailed in the PDD?	VVM	102	N/A	OK	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	OK	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	N/A	OK	OK
c. Does the list of alternatives given in the PDD ensure that:	VVM	106	N/A	OK	OK
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity?	VVM	106	N/A	OK	OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?	VVM	106	N/A	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	106	N/A	OK	OK
c. Investment analysis					
a. Has investment analysis been used to demonstrate	VVM	108	Yes.The proposed project activity used the investment	OK	OK

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the additionality of the proposed CDM project activity?			analysis to demonstrate the additionality.		
b. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	108	See Below.	-	-
i. the most economically or financially attractive alternative?	VVM	108	Not Applicable.	OK	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission 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	OK
c. Was this shown by one of the following approaches?	VVM	109	See Below.	-	-
i. The proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document 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.	VVM	109	Not Applicable.	OK	OK
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.	OK	OK
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 investiment.	OK	OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 51	Ann 58	No.	OK	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	EB 51	Ann 58	Yes.	OK	OK

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period?					
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 51	Ann 58	Yes. The Spreadsheet contains the costs of major maintenance through the O&M costs.	OK	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 51	Ann 58	Yes.	OK	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 51	Ann 58	Yes.	OK	OK
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 51	Ann 58	Yes.	OK	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 51	Ann 58	Yes.	OK	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 51	Ann 58	Not Applicable.	OK	OK
l. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 51	Ann 58	Yes	OK	OK
m. Are the input values used in all investment analysis valid and applicable at the time of the investment	EB 51	Ann 58	**CL BQA 01** – Clarify with evidences the moment of investment decision, in order to guarantee that the input	CL BQA 01	OK

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decision taken by the project participant?			values are the correct ones at this moment in the project chronology.		
n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 51	Ann 58	Refer to CL BQA 01.	CL BQA 01	OK
o. Are all the listed input values been consistently applied in all calculations?	EB 51	Ann 58	**CAR BQA 01** – The investment analysis spreadsheet applies a Plant Investment input from the tab 'CAPEX Delta Ajustado' that was calculated for a Plant Export Capacity of 30MW. In addition, the Benchmark WACC was calculated, according to the PDD, using a Wd of 50.50% and a We of 50.00%. This is not in accordance with the Guidelines on the Assessment of Investment Analysis. Moreover, there are two other variables ('Enviromental/Managerial (R$/year)' in the cell 'C12' and 'Enviromental/Managerial (R$/year)' in the cell 'E39') that use the tabs 'CAPEX Delta Ajustado' and 'G&A Operacional – Ano 1 Delta'. These tabs are not related with the project activity investment analysis. Provide the correct input values.	CAR BQA 01	OK
p. Does the investment analysis reflect the economic decision making context at point of the decision to recomence 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 51	Ann 58	Not Applicable.	OK	OK
q. Have project participants supplied the spreadsheet versions of all investment analysis?	EB 51	Ann 58	**CAR BQA 02** – According to the file name of the investment analysis spreadsheet 'FCF_Muritiba_EQAO_Final v.2.xlsx' it is implied that there is a previous version of the investment analysis spreadsheet. Provide all spreadsheet versions of all investment analysis.	CAR BQA 02	OK

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r. Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 51	Ann 58	Yes.	OK	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 51	Ann 58	Not Applicable.	OK	OK
t. In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 51	Ann 58	Not Applicable.	OK	OK
u. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 51	Ann 58	No.	OK	OK
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 51	Ann 58	Not Applicable.	OK	OK
w. Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calcualtion of equity IRR? (this is not allowed)	EB 51	Ann 58	No.	OK	OK
x. Was a pre-tax benchmark be applied?	EB 51	Ann 58	No.	OK	OK
y. In cases where a post-tax benchmark is applied, is actual interest payable taken into account in the calculation of income tax?	EB 51	Ann 58	Yes.	OK	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 51	Ann 58	No.	OK	OK
aa. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR	EB 51	Ann 58	Yes. Although refer to CAR BQA 01 about the WACC calculation.	CAR BQA 01	OK

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calculated?					
bb. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 51	Ann 58	Yes.	OK	OK
cc. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 51	Ann 58	Not Applicable.	OK	OK
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 51	Ann 58	Not Applicable.	OK	OK
ee. In the cases of projects which could be developed by an entity other than the project participant is the benchmark applied based on publicly available data sources which can be clearly validated?	EB 51	Ann 58	Yes.	OK	OK
ff. 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 51	Ann 58	Not Applicable	OK	OK
gg. 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 51	Ann 58	Not Applicable	OK	OK
hh. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 51	Ann 58	Not Applicable	OK	OK
ii. Has a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in	EB 51	Ann 58	Not Applicable	OK	OK

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relation to similar projects been conduted?					
jj. Does the risk premiums applied in the determination of required returns on equity reflect the risk profile of the project activity being assessed, established according to national/international accounting principles? (It is not considered reasonable to apply the rate general stock market returns as a risk premium for project activities that face a different risk profile than an investment in such indices.)	EB 51	Ann 58	Not Applicable	OK	OK
kk. 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 51	Ann 58	Not Applicable	OK	OK
ll. 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 51	Ann 58	**CAR BQA 03** – Provide the spreadsheet used for the sensitivity analysis, so the DOE can validate it.	CAR BQA 03	OK
mm. 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 51	Ann 58	Refer to CAR BQA 03	CAR BQA 03	OK
nn. Is the range of variations selected is reasonable in the project context?	EB 51	Ann 58	Refer to CAR BQA 03	CAR BQA 03	OK
oo. 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 51	Ann 58	Refer to CAR BQA 03	CAR BQA 03	OK

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pp. 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	Refer to CAR BQA 03	CAR BQA 03	OK
qq. Was the plant load factor defined ex-ante in the CDM-PDD according to one of the following options:	EB 51	Ann 58	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 51	Ann 58	**CAR BQA 04** – Explain how was determined the plant load factor.	CAR BQA 04	OK
ii. The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 51	Ann 58	Refer to CAR BQA 04.	CAR BQA 04	OK
rr. 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 available evidence and expertise in relevant accounting practices conducted?	VVM	111	Refer to CAR BQA 01.	CAR BQA 01	OK
ss. Were the parameters cross-checked agains third-party or publicly available sources, such as invoices or price indices?	VVM	111	Refer to CAR BQA 01. **CAR BQA 05 –** 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	CAR BQA 01 CAR BQA 05	OK

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			the dates of each evidence. -Plant Export Capacity -Number of Towers -Plant Capacity Factor -Power Output -O&M -Land Lease -Insurance -TUSD -TUSD -ANEEL -Forward PLD (NE region) -Electricity Sales- PPA -PIS/COFINS -Assumed Income for Social Tax -Social Tax -Assumed Income for Income Tax -Income Tax		

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tt. 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 CAR BQA 05.	CAR BQA 05	OK
uu. Was the correctnes of computations carried out and documented by the project participants assessed?	VVM	111	Refer to CAR BQA 05.	CAR BQA 05	OK
vv. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	111	Refer to CAR BQA 03.	CAR BQA 03	OK
ww. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	112	Yes. According to the "Guidelines of Investment Assessment- Version 5", weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR. Although, refer to CAR BQA 02.	CAR BQA 02	OK
xx. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	112	Yes. The WACC was calculated considering a (β) Sectorial Risk of 1.55%.	OK	OK
yy. 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.	-	-
i. assessing previous investment decisions by the project participants involved?	VVM	112	Not Applicable.	OK	OK
ii. determining whether the same benchmark has been applied?	VVM	112	Not Applicable.	OK	OK
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	112	Not Applicable.	OK	OK
zz. 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	**CL BQA 02** - Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activities?	CL BQA 02	OK

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xx. If yes:	VVM	113	See Below.	-	-
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	Refer to CL BQA 02.	CL BQA 02	OK
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	113	Refer to CL BQA 02.	CL BQA 02	OK
iii. If not, was the appropriateness of the values validated?	VVM	113	Refer to CL BQA 02.	CL BQA 02	
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.	CL BQA 02	OK
d. Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	115	No	OK	OK
b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	115	-	-	-
i. prevent the implementation of this type of proposed CMD project activity?	VVM	115	N/A	ÕK	OK
ii. do not prevent the implementation of at least one of the alternatives?	VVM	115	N/A	ÕK	OK
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than:	VVM	116	N/A	ÕK	OK

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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]}					
d. Were the barriers determined as real by:	VVM	117	-	-	-
i. asssing 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	N/A	ÕK	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	N/A	ÕK	OK
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	117	N/A	ÕK	OK
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	VVM	117	N/A	ÕK	OK

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	implementation of *at least one of* the possible alternatives, in particular the identified baseline scenario?					
	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 PoA.	OK	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. However, see CAR24.	CAR24	OK
c.	Was it assessed whether the geograpphical 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 relevatn region for assessment will be local and for others it may be transnational/global.	VVM	120	Yes. The entire host country has appropriately been chosen.	OK	OK
d.	Was a region other than the entire host country chosen?	VVM	120	No	OK	OK
e.	If yes, was the explanation why this region is more appropriate assessed?	VVM	120	N/A	OK	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	See CAR24.	CAR24	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	See CAR24.	CAR24	OK
h.	If yes, was it assessed whether there are essential	VVM	120	See CAR24	CAR24	OK

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distinctions between the proposed CDM project activity and the other similar activities?					
7. Monitoring plan					
a. Does the PDD include a monitoring plan?	VVM	122	Yes	OK	OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	122	Refer to (3.xxxi) above.	-	-
c. Were the list of parameters required by the selected methodology identified?	VVM	123	Refer to (3.xxx) and (3.xxxi) above.	-	-
d. Does the monitoring plan contains all necessary parameters?	VVM	123	Refer to (3.xxx) and (3.xxxi) above.	-	-
e. Are the parameters clearly described?	VVM	123	Refer to (3.xxx) and (3.xxxi) above.	-	-
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	123	Refer to (3.xxx) and (3.xxxi) above.	-	-
g. Are all data and parameters monitored as per monitoring methodology?	ACM	0002	Refer to (3.xxx) and (3.xxxi) above.	-	-
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	**CAR34:** PoA-DD v01, Section E.7.2, does not state that all data collected as part of monitoring will be archived electronically and kept for 2 years after the end of the last crediting period.	CAR34	OK
i. Are 100% of the data monitored, if not indicated otherwise?	ACM	0002	Refer to (3.xxx) and (3.xxxi) above.	-	-
j. Are measurements conducted with calibrated measurement equipment according to relevant industry standards?	ACM	0002	Yes	OK	OK
k. Are the monitoring provisions in the tools referred to in the methodology correctly applied?	ACM	0002	Not applicable, since $EF_{grid,CM,y}$ is determined ex-ante.	OK	OK
l. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	123	Yes	OK	OK
m. Does the monitoring plan provide details regarding	EB	37	Yes	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
calibration of monitoring equipments/ instruments or does it include zero check as a substitute for calibration? (zero check can not be considered as a substitute for calibration)	24				
n. Are the following means of implementation of the 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:	VVM	123	-	-	-
i. data management procedures?	VVM	123	See CAR34	CAR34	OK
ii. quality assurance procedures?	VVM	123	Yes	OK	OK
iii. quality control procedures?	VVM	123	Yes	OK	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	Yes	OK	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	The final decision from the 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 nº 1 of CIMGC – Comissão Interministerial de Mudança Global do Clima.	OK	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, see CAR23.	CAR23	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	129	No comments have been received.	OK	OK
c. Is the summary of the comments received as provided in the PDD complete?	VVM	129	No comments have been received.	OK	OK
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	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	OK	OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	132	Yes	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	132	Yes	OK	OK
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	Yes	OK	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	Summary of project owner response	Validation team conclusion
CAR01: CPA-DD v1, in the header of all pages, does not contain the name/title of the PoA.	VVM 56	*Answer 17/02/2012* The "*Muritiba Wind Power Plant CPA*" was amended as requested by the DOE. Please refer to the second version of the document, dated 17/02/2012.	Name/title of PoA has been included in the header of all pages of CPA-DD v2. **CAR01 is closed.**
CAR02: CPA-DD v1, Section A.1, presents a title, *Muritiba Wind Power Plant CPA*, which does not follow the generic title form, established in CPA-DD v1 Generic. Besides, CPA-DD Generic, Section A.1, should not specify version and date, because both will be specified upon the inclusion of each CPA.	VVM 56	*Answer 17/02/2012* The title of the generic version of the CDM-CPA-DD was amended in order to be consistent with the title presented in the "*Muritiba Wind Power Plant CPA*" CDM-CPA-DD. In addition, the version and date of the generic version of the CDM-CPA-DD was amended as requested by the DOE. All information that shall be completed at the time of the inclusion of CPAs is differentiated by the use of square brackets. Please refer to the second versions of the documents, both dated 17/02/2012.	Titles are now in line, between both CPA-DDs. **CAR02 is closed.**
CAR03: CPA-DD v1, Section A.4.1, is blank.	VVM 56	*Answer 17/02/2012* It is PPs understanding that section A.4.1. does not need to be filled in since the identification of the CPA is specified in sections A.4.1.1. and A.4.1.2.	Explanation provided. **CAR03 is closed.**
CAR04: CPA-DD Generic, Section A.4.2.2, does not include a generic sentence (e.g. *The expected operational lifetime for the CPA is […] years.*).	VVM 56	*Answer 17/02/2012* The requested information was included in the generic version of the CDM-CPA-DD. Please	Section A.4.2.2, in CPA-DD Generic, has been revised accordingly. **CAR04 is closed.**

		refer to the revised version of the document, dated 17/02/2012.	
CAR05: CPA-DD Generic, Section A.4.3.1, requests only the "FIRST YEAR OF OPERATION" to be filled.	VVM 56	*Answer 17/02/2012* Section A.4.3.1 of the generic version of the CDM-CPA-DD was revised to clearly identify which information has to be filled in (between square brackets). Please refer to the revised version of the document, dated 17/02/2012.	Date field has been adjusted in Section A.4.3.1, of CPA-DD Generic. **CAR05 is closed.**
CAR06: CPA-DD v1, sections A.4.4 and B.5.3, and CERs Calc spreadsheets v1 present inverted values for 2015 and 2022. Besides, "2014" is incorrect in Cell B17, <Table A.4.4.>.	VVM 56	*Answer 17/02/2012* The CERs calculation spreadsheet was revised in order to correct the inconsistency mentioned by the DOE. Information from cell B17 was removed and is presented in another format in the revised version of CERs calculation spreadsheet, dated 17/02/2012.	Years and values have been updated in CPA-DD v2 and CERs Calc spreadsheets v2. **CAR06 is closed.**
CAR07: Section B.2 of both CPA-DDs (Muritiba's v1 and Generic), in the second eligibility condition, fails to state that a CPA may consist of a capacity addition to an operational wind power plant.	VVM 56	*Answer 17/02/2012* PPs have opted to exclude capacity additions from the list of eligible CPAs. In this sense, only information regarding Greenfield wind power plants is considered in the second versions of the documents, dated 17/02/2012.	Capacity additions have been removed from the scope of the PoA. Documents have been revised accordingly. **CAR07 is closed.**
CAR08: Section B.2 of both CPA-DDs (Muritiba's v1 and Generic) is not in accordance with Section A.4.2.2 of Poa-DD v01.	VVM 56	*Answer 17/02/2012* The eligibility criteria for inclusion of a CPA to the proposed PoA were revised in accordance with Annex 03, EB 65. Please refer to the revised version of the documents, dated 17/02/2012.	Eligibility criteria have been revised in all documents. **CAR08 is closed.**
CAR09: PoA-DD v01, Section E.5.1, and both CPA-DDs (Muritiba's v1 and Generic), Section B.3, present discrepant formulae for *Kd* and *Ke*.	VVM 56	*Answer 17/02/2012* *Kd* and *Ke* formulae presented in the CDM-CPA-DDs (Muritiba and generic) were revised to be in agreement with the ones presented in the CDM-PoA-DD. Please refer to the second	First analysis: *Ke* formula still not aligned between CPA-DDs (Muritiba v2 and generic) and CDM-PoA-DD. *CAR09 is not closed.*

		version of the documents, both dated 17/02/2012. *Answer 16/03/2012* The Muritiba CDM-CPA-DD was amended as requested by the DOE. Please refer to the third version of the document, dated 16/03/2012.	Second analysis: Adjustments correctly made. **CAR09 is closed.**
CAR10: Tables 5, in PoA-DD v01 and Muritiba's CPA-DD v1, and Table 4, in CPA-DD Generic, present discrepant list/identification of parameters.	VVM 56	*Answer 17/02/2012* The documents were revised in order to present the same list/identification of parameters. Please refer to the revised documents, dated 17/02/2012. *Answer 16/03/2012* The CDM-CPA-DD generic was amended as requested by the DOE. Please refer to the third version of the document, dated 16/03/2012.	First analysis: In Table 5, of CPA-DD Generic, replace "Price" by "PPA Price", in order to align parameter identification over different documents. *CAR10 is not closed.* Second analysis: Adjustments correctly made. **CAR10 is closed.**
CAR11: PoA-DD v01, Section E.5.1, and both CPA-DDs (Muritiba's v1 and Generic), Section B.3, present first paragraphs under "*Financial Indicator – Internal rate of return (IRR)*" which are not aligned.	VVM 56	*Answer 17/02/2012* In the CDM-PoA-DD two options where provided to calculate and compare the financial indicators (step 2b). The first option is to compare the Project IRR against the WACC of the sector. The second option is to compare the Equity IRR against the Cost of Equity (Ke). Please note that the Muritiba's CDM-CPA-DD uses the first option (Project IRR X WACC). These options were identified in a clearer manner in the revised versions of the documents, dated 17/02/2012.	PoA-DD v2, Section E.5.1, and both CPA-DDs, Section B.3, have been revised to align texts under "*Financial Indicator*". **CAR11 is closed.**
CAR12: CPA-DD Generic, Table 7, presents a value (*11.13%*) which shouldn't be there. Besides, Column header "*COST (1,000BRL)*" is not in line with Parameters' Column, in Table 4.	VVM 56	*Answer 17/02/2012* The document was amended as requested by the DOE. Please refer to the second version of the CDM-CPA-DD Generic, dated	CPA-DD Generic, Table 7, has been revised to eliminate value and adjust column header. **CAR12 is closed.**

		17/02/2012.	
CAR13: CPA-DDs (Muritiba's v1 and Generic), in Section B.4, incorrectly refer to A.4.2.	VVM 56	*Answer 17/02/2012* Both Muritiba's and Generic CDM-CPA-DDs were amended as requested by the DOE. Please refer to the second versions of the documents, dated 17/02/2012.	Incorrect reference to Section A.4.2 has been adjusted in both CPA-DDs. **CAR13 is closed.**
CAR14: First equation of Section B.5.2, in both CPA-DDs (Muritiba's v1 and Generic), needs to be corrected, i.e. $EG_{facility,y}$ is to be replaced by $EG_{PJ,y}$. Besides, in CPA-DD Generic, capacity additions have not been considered. Finally, please, renumber equations in CPA-DD Generic, since first equation has not been numbered.	VVM 56	*Answer 17/02/2012* The documents were amended as requested by the DOE. Please note that capacity additions were excluded from the list of eligible CPAs. Please refer to the revised versions of the documents, dated 17/02/2012.	First equation of Section B.5.2, in both CPA-DDs (Muritiba's v2 and Generic), has been corrected. Capacity additions are no longer applicable. Equations have been renumbered in CPA-DD Generic. **CAR14 is closed.**
CAR15: CPA-DD Generic, Section B.6.1, has not considered capacity additions ($EG_{PJ\_Add,y}$).	VVM 56	*Answer 17/02/2012* Capacity additions were excluded from the list of eligible CPAs. Please refer to the revised versions of the documents, dated 17/02/2012.	Capacity additions have been removed from the scope of the PoA. Documents have been revised accordingly. **CAR15 is closed.**
CAR16: PoA-DD v01, Section A.4.1, is blank.	PoA form v1	*Answer 17/02/2012* It is PPs understanding that section A.4.1. does not need to be filled in since the location of the PoA is better detailed in sections A.4.1.1. and A.4.1.2. In this sense, section A.4.1. of the CDM-PoA-DD was not revised.	Explanation provided. **CAR16 is closed.**
CAR17: PoA-DD v01, Section A.4.2, is blank.	PoA form v1	*Answer 17/02/2012* It is PPs understanding that section A.4.2. does not need to be filled in since the description of a typical CPA is better detailed in sections A.4.2.1. and A.4.2.2. In this sense, section A.4.2. of the CDM-PoA-DD was not revised.	Explanation provided. **CAR17 is closed.**
CAR18: Figure 3, in PoA-DD v01, Section A.4.2.1, presents expression "Erro! Indicador não definido.".	PoA form v1	*Answer 17/02/2012* The CDM-PoA-DD was amended in order to	Expression "Erro! Indicador não definido." has been removed from PoA-

		excluded the reference error mentioned by the DOE. Please refer to the second version of the document, dated17/02/2012.	DD v2. **CAR18 is closed.**
CAR19: PoA-DD v01, Section A.4.2.2, as well as Section B.2 of both CPA-DDs (Muritiba's v1 and Generic), are not in accordance with EB 65 Annex 3.	PoA form v1	*Answer 17/02/2012* The documents were amended following the requirements of Annex 3, EB65. Please refer to the second versions of the document, dated 17/02/2012.	PoA-DD v2 and both CPA-DDs are now in accordance with EB 65 Annex 3. **CAR19 is closed.**
CAR20: PoA-DD v01, Section A.4.4.2, does not specify whether amount of reductions of GHG emissions will be verified based on statistical sampling or not.	PoA form v1	*Answer 17/02/2012* Section A.4.4.2. clearly states that the monitoring will be conducted for each CPA. This means that no sampling methods are used. In addition, section A.4.4.2 remits to sections E.7.1 and E.7.2. that detail that monitoring is conducted separately for each CPA. In this sense, it is PPs understanding that there is no need to revise the documents.	It has been stated that statistical sampling will not be applied. **CAR20 is closed.**
CAR21: PoA-DD v01 and both CPA-DDs (Muritiba's v1 and Generic), Section C.1, do not justify the choice of level at which the environmental analysis is undertaken. Additionally, please, make it clear what is meant by "local", in the context of environmental analysis.	PoA form v1	*Answer 17/02/2012* According to the environmental process described in Section C.1. of the CDM-PoA-DD, in accordance with the Brazilian regulations, the environmental analysis is conducted individually for each power plant. A statement was included in this section of the CDM-PoA-DD to make clear that the environmental analysis will be performed at the CPA level. Once the choice of the level at which the environmental analysis will be done is justified in the CDM-PoA-DD, it is PPs understanding that this justification does not need to be included in the CDM-CPAs. In addition, the CDM-PoA-DD was rephrased to make clear that local may mean at the state	First analysis: CDM-CPA-DD Form also requires the choice to be justified. *CAR21 is not closed.* Second analysis: Adjustments correctly made. **CAR21 is closed.**

		level, depending on the size of the project. Please refer to the revised version of the document, dated 17/02/2012. *Answer 16/03/2012* The requested information was included in section C.1. of both Muritiba and Generic version of the CDM-CPA-DD. Please refer to the third version of the documents, dated 16/03/2012.	
CAR22: PoA-DD v01 and both CPA-DDs (Muritiba's v1 and Generic), Section D.1, do not justify the choice of level at which local stakeholder comments are invited.	PoA form v1	*Answer 17/02/2012* Section D.1. of the CDM-PoA-DD was amended to include a justification regarding the level at which the local stakeholders were invited for comments (*i.e.* at the PoA level). Please refer to the second version of the CDM-PoA-DD, dated 17/02/2012. *Answer 16/03/2012* The requested information was included in section C.1. of both Muritiba and Generic version of the CDM-CPA-DD. Please refer to the third version of the documents, dated 16/03/2012.	First analysis: CDM-CPA-DD Form also requires the choice to be justified. *CAR22 is not closed.* Second analysis: Adjustments correctly made. **CAR22 is closed.**
CAR23: PoA-DD v01, Section D.2, does not describe how comments by local stakeholders have been invited.	PoA form v1	*Answer 17/02/2012* Section D.2. of the CDM-PoA-DD was amended to include a description of the methods used to invite the local stakeholders for comments. Please refer to the second version of the CDM-PoA-DD, dated 17/02/2012.	Section D.2, of PoA-DD v2, describes how comments by local stakeholders have been invited. **CAR23 is closed.**
CAR24: PoA-DD v01, Section E.1, lists version 5.2.1 of the additionality tool, which is no longer valid (see EB 65).	PoA form v1	*Answer 17/02/2012* The version of the additionality tool was updated. The CDM-PoA-DD and CDM-CPA-DDs were amended principally with respect	Version of additionality tool has been updated. **CAR24 is closed.**

		the common practice analysis. Please refer to the second versions of the CDM-PoA-DD.	
CAR25: PoA-DD v01, Section E.2, in the second applicability condition refers to page 10 of ACM0002, whereas page 11 is the correct one.	PoA form v1	*Answer 17/02/2012* The applicability condition was copied from the methodology the same way as it is presented. It is PPs understanding that this should not be corrected. In this sense, the documents were not revised. *Answer 16/03/2012* The version of the methodology was updated. This inconsistency was removed from the ACM0002, version 12.3.0. Please refer to the third version of the documents, dated 16/03/2012.	First analysis: Version 12.2.0 states page 11. *CAR25 is not closed.* Second analysis: Adjustments correctly made. **CAR25 is closed.**
CAR26: PoA-DD v01, Section E.3, Figure 5, refers to EG_y, whereas correct parameters are $EG_{facility,y}$ and $EG_{PJ\_Add,y}$.	PoA form v1	*Answer 17/02/2012* The mentioned figure was amended. Please note that only parameter $EG_{facility,y}$ is mentioned since capacity additions were excluded from the list of eligible CPAs. Please refer to the second version of the CDM-PoA-DD, dated 17/02/2012.	Identification of parameters has been corrected in Figure 5, Section E.3, of PoA-DD v2. **CAR26 is closed.**
CAR27: PoA-DD v01, Section E.5, has been left blank.	PoA form v1	*Answer 17/02/2012* It is PPs understanding that section E.5. of the CDM-PoA-DD does not need to be filled in since the additionality for a typical CPA and the criteria used for its inclusion are better detailed in sections E.5.1. and E.5.2.	Explanation provided. **CAR27 is closed.**
CAR28: PoA-DD v01, Section E.5.1, in the identification of alternatives, does not include other types of power plants (e.g. hydro, biomass, fossil fuel).	PoA form v1	*Answer 17/02/2012* As presented in sub-step 1a, there are two alternatives to the proposed project activity: (i) the electricity generated by the grid-connected power plants (current scenario) and (ii) the	Explanation provided on the identification of alternatives. **CAR28 is closed.**

		proposed project activity without the CDM incentives. Therefore, the options available to the project sponsor are to invest or not invest in the proposed project activity. These options are reflected in the investment analysis of the project; the investment analysis is based on the "benchmark analysis" and not in the "comparison analysis" (alternative scenarios in the case of other types of infrastructural investment). Furthermore, other types of renewable energy generation project – as biomass and/or hydropower –, are no potential alternatives at the site where the project is planned.	
CAR29: PoA-DD v01, Section E.5.2, does not include a justification of the choice of criteria for assessing additionality of a CPA.	PoA form v1	*Answer 17/02/2012* The ACM0002 methodology refers to the "*Tool for the demonstration and assessment of additionality*" (Additionality Tool) and the "*Combined tool to identify the baseline scenario and demonstrate additionality*" (Combined Tool). However, the combined tool is not applicable for Greenfield facilities where the output could be provided by other existing facilities or new facilities that could be implemented in parallel with the CDM project activity. Therefore, the additionality assessment was conducted at the CPA level and followed the steps of the methodological tool '*demonstration and assessment of additionality*' as required by the ACM0002 methodology. In addition, this procedure is also in line with paragraph 10, Annex 3, EB65.	Explanation provided on the justification of the choice of criteria for assessing additionality of a CPA. **CAR29 is closed.**

		The explanations above justify the choice of the criteria for assessing the additionality of the CPA.	
CAR30: PoA-DD v01, Section E.6.1, does not make any reference to the choice between options 1 and 2 for the calculation of $EG_{PJ,y}$, in the case of capacity additions.	PoA form v1	*Answer 17/02/2012* Capacity additions were excluded from the list of eligible CPAs. Please refer to the revised versions of the documents, dated 17/02/2012.	Capacity additions have been removed from the scope of the PoA. Documents have been revised accordingly. **CAR30 is closed.**
CAR31: PoA-DD v01, Section E.6.1, presents a web link address which does not lead to the information in Table 6.	PoA form v1	*Answer 17/02/2012* The link presented as the source of information disclosed in Table 6 of the CDM-PoA-DD corresponds to the National System Operator website where the input data related to electricity generation can be obtained. In this webpage, several options are provided, such as: source, year, region and others. The result presented in the table was obtained by assessing information of the most recent years, divided by sources. The spreadsheet containing the calculation is attached for crosschecking of the DOE. Nevertheless, project participants have opted to change the vintage used for the combined margin CO2 emission factor of the grid. In the second version of the CDM-PoA-DD the grid emission factor is determined ex-post. Therefore, this information was excluded from the revised version of the document.	Former Table 6 has been removed from PoA-DD v2. **CAR31 is closed.**
CAR32: PoA-DD v01, Section E.6.3, does not list $DATE_{BaselineRetrofit}$. Please, when addressing this CAR, let it clear that $DATE_{BaselineRetrofit}$ applies to capacity addition CPAs.	PoA form v1	*Answer 17/02/2012* Capacity additions were excluded from the list of eligible CPAs. Please refer to the revised versions of the documents, dated 17/02/2012 *Answer 16/03/2012*	First analysis: As per ACM0002 v12.2.0, $\square_{OM}$ and $\square_{BM}$ are not the "data and parameters that are to be reported in CDM-CPA-DD" (Section E.6.3 of PoA-DD) or the "data

		The mentioned parameters were excluded from the list of parameters presented in section E.6.3. of the CDM-PoA-DD. Please refer to the revised third version of the document, dated 16/03/2012.	and parameters that are available at validation" (Section B.5.1 of CPA-DDs). *CAR32 is not closed.* Second analysis: Adjustments correctly made. **CAR32 is closed.**
CAR33: PoA-DD v01, Section E.7.1, does not list $EG_{PJ\_Add,y}$ nor $EF_{grid,CM,y}$. Please, when addressing this CAR, let it clear that $EG_{facility,y}$ applies to Greenfield CPAs and $EG_{PJ\_Add,y}$ to capacity addition CPAs.	PoA form v1	*Answer 17/02/2012* Capacity additions were excluded from the list of eligible CPAs. Therefore, the inclusion of the parameter $EG_{PJ\_Add,y}$ is no longer applicable. The combined margin CO2 emission factor of the grid ($EF_{grid,CM,y}$) is a calculated parameter. Therefore, it is PPs understanding that only those parameters needed for its determination shall be mentioned in the CDM-PoA-DD. In addition, only monitored parameters are to be in section E.7.1. However, differently from the option made in the first version of the CDM-PoA-DD, PPs have opted to use the ex-post data vintage for the determination of the emission factor. In this sense, $EG_{PJ,h}$, $EF_{EL,DD,h}$ and $EF_{grid,BM,y}$ were included in section E.7.1. Please refer to the revised versions of the documents, dated 17/02/2012 *Answer 16/03/2012* The other parameters mentioned in section E.7.1. are related to the calculation of the combined margin CO2 emission factor of the grid and are in accordance with the option chosen, i.e. the dispatch data analysis method, and the tool. In this sense, PPs	First analysis: As per ACM0002 v12.2.0, $EG_{facility,y}$ and $EF_{grid,CM,y}$ are the only two parameters to be monitored. *CAR 33 is not closed.* Second analysis: Adjustments correctly made. **CAR33 is closed.**

		understand that they shall not be excluded. Nevertheless, the parameter $EF_{grid,CM,y}$ was included in the section ,as requested by the DOE since it is listed in the ACM0002.	
CAR34: PoA-DD v01, Section E.7.2, does not state that all data collected as part of monitoring will be archived electronically and kept for 2 years after the end of the last crediting period.	ACM 0002	*Answer 17/02/2012* The requested information was included in the CDM-PoA-DD as requested by the DOE. Please refer to the second version of the document, dated 17/02/2012.	Section E.7.2, of PoA-DD v2, has been revised. **CAR34 is closed.**
CAR BQA 01: The investment analysis spreadsheet applies a Plant Investment input from the tab 'CAPEX Delta Ajustado' that was calculated for a Plant Export Capacity of 30MW. In addition, the Benchmark WACC was calculated, according to the PDD, using a Wd of 50.50% and a We of 50.00%. This is not in accordance with the Guidelines on the Assessment of Investment Analysis. Moreover, there are two other variables ('Enviromental/Managerial (R$/year)' in the cell 'C12' and 'Enviromental/Managerial (R$/year)' in the cell 'E39') that use the tabs 'CAPEX Delta Ajustado' and 'G&A Operacional – Ano 1 Delta'. These tabs are not related with the project activity investment analysis. Provide the correct input values.	EB 51 Ann 58	*Answer 17/02/2012* The investment analysis of the Muritiba Wind Power Plant was based on the quotations obtained by Omega while developing Delta do Parnaíba Project which is a more advanced stage. The value actually applied to Muritiba's investment analysis is the Delta's total CAPEX per MW installed. A more detailed justification of the weights of equity and debt was included in the Muritiba's CPA. Finally, as explained above, '*CAPEX Delta Ajustado*' and '*G&A Operacional – Ano 1 Delta*' are also being used as reference since Delta is the project being implemented by Omega, which represents PPs experience as of today.	Answer 1 (14/03/2012) All evidences have been checked and were found to be in accordance to the CDM tools. **CAR BQA 1 is closed.**
CAR BQA 02: According to the file name of the investment analysis spreadsheet 'FCF_Muritiba_EQAO_Final v.2.xlsx' it is implied that there is a previous version of the investment analysis spreadsheet. Provide all spreadsheet versions of all investment analysis.	EB 51 Ann 58	*Answer 17/02/2012* The first version of the spreadsheet is attached. Please note that the IRR calculation was amended in order to be consistent with the evidences provided for the investment analysis, such as the O&M costs for which no expenses are considered during the first two years of the cash flow and the WACC revision.	Answer (15/03/2012) The evidence has been provided. **CAR BQA 2 is closed.**

CAR BQA 03: Provide the spreadsheet used for the sensitivity analysis, so the DOE can validate it.	EB 51 Ann 58	*Answer 17/02/2012* The sensitivity analysis was done in the same spreadsheet, by altering cell G4 (price), cell G5 (electricity generation) and G6 (investments). In this sense, no other document is attached in response to this request.	Answer (15/03/2012) The DOE has checked the investment analysis spreadsheet and all variations were ok. **CAR BQA 3 is closed.**
CAR BQA 04: Explain how was determined the plant load factor.	EB 51 Ann 58	*Answer 17/02/2012* The plant load factor is determined based on the wind certification, dated 17/09/2011, which is attached to this protocol. As described in the CDM-CPA-DD, this is in line with paragraph 3b, Annex11, EB 48.	Answer 1 (14/03/2012) All evidences have been checked and were found to be in accordance to the CDM tools. **CAR BQA 4 is closed.**
CAR BQA 05: 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 Export Capacity; (b) Number of Towers; (c) Plant Capacity Factor; (d) Power Output; (e) O&M (f) Land Lease; (g) Insurance; (h) TUSD; (i) TUSD; (j) ANEEL; (k) Forward PLD (NE region); (l) Electricity Sales- PPA; (m) PIS/COFINS;	VVM 111	*Answer 17/02/2012* As discussed during the audit visit, no activities/measures have been implemented in the project site for the project construction of the wind power plant. Therefore, no actions were taken for the project construction which may constitute the "*project starting date*". Therefore, the investment analysis of the project (IRR and WACC calculation) was based on the most recent data/ information available at the time of the submission of the PDD for GSP (Global Stakeholder Process) on 27/10/2011. Please note that in accordance with the explanation provided below in CL 03, the starting date was revised. Due to this revision, the date in which the plant is expected to be operational was also modified to January 2016. In this sense,	Answer 1 (14/03/2012) All evidences have been checked and were found to be in accordance to the CDM tools. **CAR BQA 5 is closed.**

(n) Assumed Income for Social Tax; (o) Social Tax; (p) Assumed Income for Income Tax; (q) Income Tax		the IRR calculation spreadsheet was revised and is attached. The evidences requested by the DOE are listed below. (a) The plant installed capacity was revised and is based on the wind certification provided by a third party. This document dates 17/09/2011 and is attached to this protocol; (b) The Number of Towers to be used in the plant was revised and is presented in the wind certification provided by a third party. This document dates 17/09/2011 and is attached to this protocol; (c) The plant capacity factor of the plant was revised and is based on the wind certification provided by a third party. This document dates 17/09/2011 and is attached to this protocol; (d) The Power Output of the plant is based on the wind certification provided by a third party. This document dates 17/09/2011 and is attached to this protocol; (e) This value was revised to be consistent with the VESTAS quotation. Please refer to page 11 of the file named "*WTG - Vestas / 25211-PR-OME-V100-2.0-95m REV0 25072011*" supplied to the DOE in the meeting held on 13/01/2012; (f) This value was revised to be consistent with the land lease agreement attached to this protocol. Please refer to the file	

		namend “CAR BQA 05 - ZETA - M - Anexo 7_Direito Uso (contrato)”, dated 01/04/2011; (g) Based on PPs experience and consistent with the insurance of other operational small hydro power plants. Please refer to the files named "*Apólice - Hidrelétrica Pipoca - RCG*" and "*Apólice - Hidrelétrica Pipoca - RO*". The value used is slightly higher to account for the risk perception related to the implementation of wind power plants in Brazil; (h) The TUSD fee was taken from the ANEEL Ordinance #1118, dated 01/03/2011, which is available at http://www.aneel.gov.br/cedoc/reh20111118.pdf; (i) As discussed in the CDM-CPA-DD, the discount in the TUSD fee is not being taken into account since it can be considered a type E- policy; (j) Reference is proveided in the IRR calculation spreadsheet. The ANEEL Ordinance is also publicly available at http://www.aneel.gov.br/cedoc/atdsp2011360.pdf (acessed on 08/02/2012); (k) PSR Report supplied to the DOE in the meeting held on 13/01/2012; (l) Electricity Sales- PPA corresponds to the total income expected with the electricity sales after the plant becames operatinal. Please note that this parameter is calculated;	

		(m) In acordance with the Federal Law #9.718, dated November 27th, 1998 (http://www.receita.fazenda.gov.br/legislacao/leis/Ant2001/lei971898.htm); (n) Please refer to the FAC section of the Secretariat of the Revenue of Brazil for the applicable regulation (http://www.receita.fazenda.gov.br/PessoaJuridica/DIPJ/2011/PergResp/default.htm). Details are also provided in the KPMG document refered to in the PDD; (a) Please refer to the FAC section of the Secretariat of the Revenue of Brazil for the applicable regulation (http://www.receita.fazenda.gov.br/PessoaJuridica/DIPJ/2011/PergResp/default.htm). Details are also provided in the KPMG document refered to in the PDD; (b) Please refer to the FAC section of the Secretariat of the Revenue of Brazil for the applicable regulation (http://www.receita.fazenda.gov.br/PessoaJuridica/DIPJ/2011/PergResp/default.htm). Details are also provided in the KPMG document refered to in the PDD; (o) Please refer to the FAC section of the Secretariat of the Revenue of Brazil for the applicable regulation (http://www.receita.fazenda.gov.br/PessoaJuridica/DIPJ/2011/PergResp/default.htm). Details are also provided in the KPMG document refered to in the PDD;	
CL01: Please, inform the present situation of the	VVM 44	*Answer 17/02/2012*	United Kingdom of Great Britain and

approval by the United Kingdom of Great Britain and Northern Ireland.		Deutsche Bank AG, London Branch is no longer listed as project participant. In this sense, the Letter of Approval issued by the United Kingdom of Great Britain and Northern Ireland is no longer necessary. Please refer to the second version of the CDM-PoA-DD, dated 17/02/2012.	Northern Ireland is no longer a PP. **CL01 is closed.**
CL02: Please, in Section A.4.1.2, in CPA-DD, either remove the individual's name (*Marco Antônio Garcia*) from Muritiba's CPA-DD v1 or include individual's name in CPA-DD Generic.	VVM 56	*Answer 17/02/2012* The individual's name was excluded from the Muritiba's CDM-CPA-DD. Please refer to the second version of the document, dated 17/02/2012.	Sections A.4.1.2 of both CPA-DDs are now in line. **CL02 is closed.**
CL03: Please, provide the evidence that a relevant energy auction is expected to take place in August 2013 (Muritiba's CPA-DD v1, Section A.4.2.1).	VVM 56	*Answer 17/02/2012* The Electric Power Commercialization Chamber – CCEE conducts energy auctions every year. The Muritiba's Wind Power Plant was not qualified to participate in the auction to be carried out in 2012. In this sense, it was estimated that the plant will participate in the next year's auction for which no evidence is available yet. Nevertheless, the 2012 energy auction is going to take place in March (please refer to the Ministry and Mines Ordinance attached). Therefore, the forecasted month for the conduction of 2013 auction was amended. The justification of all events related to the project's implementation is presented in the second version of the CDM-CPA-DD. *Answer 16/03/2012* The mentioned excerpt was excluded from the Muritiba CDM-CPA-DD. Please refer to the revised third version of the document, dated	First analysis: Muritiba's CPA-DD v2, in first line of Section A.4.2.1, states "estimated date of the major equipment orders", for the starting date of the CPA, not in accordance with Table 1, neither with the justification for 22/12/2013. *CL03 is not closed.* Second analysis: Adjustments correctly made. **CL03 is closed.**

		16/03/2012.	
CL04: Please, adjust Section A.4.2.1 of CPA-DD Generic, in order to be more specific, considering what has been presented in Muritiba's CPA-DD v1.	VVM 56	*Answer 17/02/2012* The Generic CDM-CPA-DD was amended as requested by the DOE. Please refer to the second version of the document, dated 17/02/2012.	Section A.4.2.1, of CPA-DD Generic, has been adjusted, aligning with Muritiba's CPA-DD v2. **CL04 is closed.**
CL05: Please, provide evidence of the CPA's expected 20-year operational lifetime.	VVM 56	*Answer 17/02/2012* The manufacturer's brochure which mentions the expected lifetime of the turbine (main equipment) is attached.	Evidence provided on expected operational lifetime. **CL05 is closed.**
CL06: Please, explain the starting date of the crediting period of the CPA.	VVM 56	*Answer 17/02/2012* The starting date of the crediting period is an estimative based on the project owner' expectative on when the plant will be operational.	Clarification provided. **CL06 is closed.**
CL07: Please, inform the sources of data in CERs Calc spreadsheets v1, <Technical Description>. Besides, provide updated wind study certificate. Document C&S-CPE 628/11 rev-01 was presented during office visit.	VVM 56	*Answer 17/02/2012* The source of the technical information mentioned in the CERs calculation spreadsheet is the wind certificate which is informed in the second version of the document, dated 17/02/2012. The revision of the wind certificate is attached to this protocol.	CERs Calc spreadsheets v2 data is in accordance with C&S-CPE 628/11(r-3),17/09/2011 **CL07 is closed.**
CL08: Please, clarify why hasn't CDM project 843 been mentioned I CPA-DD v1, Section A.4.6.	VVM 56	*Answer 17/02/2012* The mentioned CDM Project Activity was not mentioned since the wind power plants considered in the PDD are not grid-connected – *i.e.* this project would not be considered eligible to be included in the proposed CDM PoA.	Clarification provided. Information cross-checked at http://cdm.unfccc.int/Projects/DB/DNV-CUK1167973931.45/view. **CL08 is closed.**
CL09: Please, clarify what "15" stands for in CPA-DD v1, Section A.4.6, second paragraph.	VVM 56	*Answer 17/02/2012* "15" refers to the sectoral scope of the Brazilian Registered PoA. The information	Clarification provided. **CL09 is closed.**

		was amended in the second version of the Muritiba's CDM-CPA-DD, dated 17/02/2012.	
CL10: Please, clarify why, in Section B.2 of the CPA-DDs, A.4.1.2 is being called for a detailed description of the CPA, once such section is limited to its identification.	VVM 56	*Answer 17/02/2012* Section A.4.1.2. presents the location of the project considered in the CPA. This section is recalled in the eligibility criterion that discusses the location of the project. Therefore, Project Participants understand that the document does not need to be amended. *Answer 16/03/2012* The mentioned excerpt was amended to inform that detailed description refers to the detailed location of the project which allows its unique identification. Please refer to the revised third version of the document, dated 16/03/2012.	First analysis: Section B.2, of both CPA-DDs, call for a detailed description of the CPA in a section (A.4.1.2) that is limited to identifying the project, not presenting its description. *CL10 is not closed.* Second analysis: Adjustments correctly made. **CL10 is closed.**
CL11: Please, adjust first paragraphs under "*Financial Indicator – Internal rate of return (IRR)*", in PoA-DD v01, Section E.5.1, and in both CPA-DDs (Muritiba's v1 and Generic), Section B.3, in order to have them in line with Guidance 3 of EB 62 Annex 5, since "*a maximum of 20 years will be appropriate*" "*if a shorter period* [shorter than the technical lifetime of the project activity] *is chosen*".	VVM 56	*Answer 17/02/2012* Guidance 3 of EB 62 Annex 5 is mentioned in the footnotes. The assessment period considered in the cash flow is 20 years, which is also in line with the expected technical lifetime of the project (please refer to CL 05 above). Hence, Project Participants understand that the documents do not need to be amended.	Clarification provided. **CL11 is closed.**
CL12: Please, adjust Section B.3 of CPA-DD Generic, in order to be more specific, considering what has been presented in Muritiba's CPA-DD v1.	VVM 56	*Answer 17/02/2012* Section B.3. was revised as a consequence of the request made by the DOE in CARs 09 and 11 above. Project Participants believe that that the documents are consistent. Therefore, the documents are not going to be revised specifically due to this request. Please refer to	First analysis: When presenting results of Step 1, of Section B.3, in Muritiba's CPA-DD v2, "13,5 MW" needs to be corrected, since it is not in accordance with the international standard format (“,” x “.”). *CL12 is not closed.*

		the second version of the documents, dated 17/02/2012. *Answer 16/03/2012* The format of the number was amended as requested by the DOE. Please refer to the third version of the document, dated 16/03/2012.	Second analysis: Adjustments correctly made. **CL12 is closed.**
CL13: Please, rewrite 2nd sentence of 4th paragraph, in order to make it clear that "construction" comprises greenfield and capacity addition CPAs.	PoA form v1	*Answer 17/02/2012* The second sentence of the third paragraph of section A.2. was rephrased both in the Muritiba's CDM-CPA-DD and Generic CDM-CPA-DD. Please refer to the second version of the documents. Please note that capacity additions were excluded from the list of eligible CPAs.	Capacity additions have been removed from the scope of the PoA. Documents have been revised accordingly. **CL13 is closed.**
CL14: Please, provide a web link address related to footnotes 1 and 2, so that information can be verified.	PoA form v1	*Answer 17/02/2012* The web links of the 1st and 2nd footnotes of the CDM-PoA-DD were amended in the second version of the document, dated 17/02/2012. *Answer 16/03/2012* The CDM-PoA-DD that was forwarded to the DOE was with track changes. For the proper presentation of the footnotes, the DOE has to accept the modifications presented in the document. The document was not amended as a consequence of this request.	First analysis: Footnotes 1 and 2 were changed to 2 and 3 (there is no footnote 1) on the CDM-PoA-DD version 02. *CL14 is not closed.* Second analysis: Clarification provided. **CL14 is closed.**
CL15: Please, inform the sources of all information presented in PoA-DD v01, Section A.4.3 (ii).	PoA form v1	*Answer 17/02/2012* Section A.4.3. of the CDM-PoA-DD was amended to include the source of electricity price obtained during the auctions conducted by the government. Project Participants believe that all other information is properly	Relevant source has been added in PoA-DD v2, Section A.4.3. **CL15 is closed.**

		referenced. The DOE is requested to inform more precisely in the case reference is still missing. Please refer to the second version of the document, dated 17/02/2012.	
CL16: Please, clarify the statement that the CME of this PoA is Omega Energia Renovável S.A., in conjunction with Zeta Energia S.A.	PoA form v1	*Answer 17/02/2012* The mentioned excerpt was rephrased. Zeta is a company from the same group dedicated exclusively for the development of wind projects. However, it was no longer listed as Project Participants and mentioned in section A.4.1. of the CDM-PoA-DD. Please refer to the second version of the document, dated 17/02/2012. *Answer 16/03/2012* Zeta was excluded from the list of contacts presented in Annex 1 of the CDM-PoA-DD. Please refer to the revised third version of the document, dated 16/03/2012.	First analysis: Annex 1, of PoA-DD v2, still lists Zeta Energia S.A. *CL16 is not closed.* Second analysis: Adjustments correctly made. **CL16 is closed.**
CL17: Please, revise PoA-DD v01, Section A.4.4.1, in light of what has been verified during site visit.	PoA form v1	*Answer 17/02/2012* Section A.4.4.1. was revised as requested. The revision focused in providing a better description of the operational and management plan of the PoA. Please refer to the second version of the CDM-PoA-DD, dated 17/02/2012.	Section A.4.4.1, of PoA-DD v2 has been revised and is in line with what has been observed during site visit. **CL17 is closed.**
CL18: Please, provide information relevant to the requirements of EB 33 Annex 41, Section A.4.4.2 (ii), based on response to CAR20.	PoA form v1	*Answer 17/02/2012* Section A.4.4.2. of the CDM-PoA-DD was revised as per the requirements of EB 33, Annex 41. Please note that the monitoring procedures are better detailed in section E.7.2. which is also recalled in Section 4.4.2. Please refer to the revised version of the document, dated 17/02/2012.	First analysis: Section A.4.4.2, in PoA-DD v2, does not yet describe, in a clear manner, a transparent system that will ensure no double accounting occurs. *CL18 is not closed.* Second analysis:

		Answer 16/03/2012 Section A.4.4.2. of the CDM-PoA-DD was revised as requested by the DOE. A confirmation that the proposed monitoring system prevents double accounting was included in document. Please refer to the revised third version of the CDM-PoA-DD, dated 16/03/2012.	Adjustments correctly made. **CL18 is closed.**
CL19: Please, update PoA-DD v01, Section B.1, informing date (27/10/2011) when PoA-DD was first published for global stakeholder consultation.	PoA form v1	*Answer 17/02/2012* Section B.1. of the CDM-PoA-DD was revised as requested. Please refer to the second version of the document, dated 17/02/2012.	Updated date has been informed in PoA-DD v2, Section B.1. **CL19 is closed.**
CL20: Please, adjust CONAMA's name in English. "Resolution" shouldn't be part of it. This CL applies to PoA-DD v01 and to both CPA-DDs (Muritiba's v1 and Generic).	PoA form v1	*Answer 17/02/2012* The information was amended as requested by the DOE. Please refer to the second version of the CDM-PoA-DD, dated 17/02/2012. *Answer 16/03/2012* The mentioned excerpt was rephrased. Please refer to the revised third version of the documents, both dated 16/03/2012.	First analysis: CONAMA's name in English has not yet been corrected in both CPA-DDs v2 (Muritiba's and generic). *CL20 is not closed.* Second analysis: Adjustments correctly made. **CL20 is closed.**
CL21: Please, adjust text of paragraph right after second applicability condition, since it is not clear.	PoA form v1	*Answer 17/02/2012* Section E.2. of the CDM-PoA-DD was revised as requested by the DOE. Please refer to the second version of the document dated 17/02/2012.	Text related to second applicability condition, in Section E.2, of PoA-DD v2, has been revised. **CL21 is closed.**
CL22: Please, update Table 6, in PoA-DD v01, Section E.6.1, with 2011 data.	PoA form v1	*Answer 17/02/2012* Information that was previously disclosed in Table 6 in the first version of the CDM-PoA-DD was excluded. Please refer to the answer to CAR31 above.	Former Table 6 has been removed from PoA-DD v2. **CL22 is closed.**
CL23: Please, adjust $EG_{facility,y}$ table, in PoA-DD v01,	PoA form	*Answer 17/02/2012*	First analysis:

Section E.7.1, in accordance with ACM0002 v12.1.0.	v1	$EG_{facility,y}$ table, in PoA-DD v01, Section E.7.1, was adjusted in accordance with ACM0002 v12.1.0. as requested by the DOE. Please refer to the revised version of the document, dated 17/02/2012. *Answer 16/03/2012* The mentioned information was included in the CDM-PoA-DD and in both CDM-CPA-DDs. Please refer to the revised third versions of the documents, dated 16/03/2012.	"at least monthly recording" is still missing, in $EG_{facility,y}$ table, in Section E.7.1, of PoA-DD v2.. *CL23 is not closed.* Second analysis: Adjustments correctly made. **CL23 is closed.**
CL24: Please, adjust text of first sentence.	PoA form v1	*Answer 17/02/2012* First sentence of section E.8. of the CDM-PoA-DD was rephrased as requested by the DOE. Please refer to the second version of the document, dated 17/02/2012.	First sentence of Section E.8, in PoA-DD v2, has been revised. **CL24 is closed.**
CL BQA 01: 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 51 Ann 58	*Answer 17/02/2012* The input values used in the investment analysis of the project (IRR and WACC calculation) were based on the most recent data/ information available at the time of the submission of the PDD for GSP (Global Stakeholder Process), *i.e.* the first semester of 2011 year. Please refer to the CAR BQA 5 answer above.	Answer (14/03/2012) The evidence has been accepted. **CL BQA 1 is closed.**
CL BQA 02: 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	*Answer 17/02/2012* No.	Answer (15/03/2012) OK **CL BQA 2 is closed.**