VALIDATION REPORT

"OSÓRIO WIND POWER PLANT PROJECT" IN BRAZIL

REPORT NO. 2006-0497

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DET NORSKE VERITAS

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Summary:

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the "Osório Wind Power Plant Project" project in Brazil 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 modalities and procedures and the subsequent decisions by the CDM Executive Board.

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

In summary, it is DNV's opinion that the "Osório Wind Power Plant Project" as described in the revised PDD of 05 April 2006, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology ACM0002. Hence, DNV will request the registration of the "Osório Wind Power Plant Project" as a CDM project activity.

Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of the DNA of Brazil and the Spain, including confirmation by the DNA of Brazil that the project assists in achieving sustainable development.

Report No.: 2006-0497	Subject Group: Environment	
Report title: "Osório Wind Power Plant Project" in Brazil		
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Work verified by: Einar Telnes		
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Abbreviations

CAR	Corrective Action Request
ANEEL	National Agency Electric Energy
BM	Build margin
BNDES	Brazilian National Bank for Economic and Social Development
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH_4	Methane
CL	Clarification request
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNV	Det Norske Veritas
DNA	Designated National Authority
Eletrobrás	Brazilian Public Electric Company
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
FEPAM	State Foundation for Environmental Protection
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
N_2O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
OM	Operating margin
ONS	National Electric System Operator
OWPPP	Osório Wind Power Plant Project
PDD	Project Design Document
PPA	Power Purchase Agreement
PROINFA	Programme of Incentives to the Alternative Sources of Electric Energy
S-SE-CO	South-Southeast-Midwest (one of two regional grids in Brazil)
UNFCCC	United Nations Framework Convention on Climate Change

1 INTRODUCTION

Ventos do Sul Energia / Enerfin Enervento S.A and Econergy have commissioned Det Norske Veritas Certification Ltd. (DNV) to perform a validation of the "Osório Wind Power Plant Project" at Osório Municipality, Rio Grande do Sul State, Brazil. This report summarises the findings of the validation of the project, performed based on UNFCCC and host Party criteria for CDM projects, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation team consisted of the following personnel:

Mr. Luis Filipe Tavares	DNV Rio de Janeiro	Team leader
Ms. Cintia Dias	DNV Rio de Janeiro	CDM auditor
Mr. Vicente San Valero	DNV Rio de Janeiro	CDM auditor
Mr. Einar Telnes	DNV Oslo	Sector expert, Technical reviewer

1.1 Validation Objective

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

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board. The validation team has, based on the recommendations in the Validation and Verification Manual /5/, and employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

1.3 "Osório Wind Power Plant Project"

The objective of the Osório Wind Power Plant Project (OWPPP) is to generate electricity on a large scale using wind energy by means of the installation of 75 Enercon 2 MW wind turbines with hub heights of 98 m, with a total installed capacity of 150 MW.
The project is projected to start on 30 May 2006 as verified on Wobben Winpower Ind Com Ltda installation chronogram discussed during follow up interviews with Enerfin/Econergy.
With the implementation of this project, OWPPP will be able to sell electricity to the South-Southeast-Midwest (S-SE-CO) regional grid, avoiding thus the dispatch of the same amount of electricity partly generated by thermal power plants supplying electricity to this grid.

The power output will be sold to Eletrobrás – Centrais Elétricas Brasileiras on the basis of a 20 years' power purchase agreement (PPA), signed on 30 June 2004, within the PROINFA (Mines and Energy Ministry Promotion Program for Electricity Generated from Renewable Sources). The PROINFA is a Brazilian Government sponsored-programme that aims at diversifying the country's energy matrix through the enactment of measures that support renewable energy projects.

The estimated amount of GHG emission reductions from the project is calculated to be 784 210 tonnes CO_2 equivalents (tCO_2e) during the first renewable 7-year crediting period (with the potential of being renewed twice), resulting in estimated average annual emission reductions of 112 030 tCO_2e.

2 METHODOLOGY

The validation consisted of the following three phases:

I a desk review of the project design documents;
II follow-up interviews with project stakeholders;
III the resolution of outstanding issues and the issuance of the final validation report and opinion.

In order to ensure transparency, a validation protocol was customised for the project, according to the Validation and Verification Manual /5/. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, 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 validation protocol consists of three tables. The different columns in these tables are described in Figure 1.

The completed validation protocol for the "Osório Wind Power Plant Project" is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of validation protocol criteria or where a risk to the fulfilment of project objectives is identified. *Corrective Action Requests* (CAR) are issued, where:

i) mistakes have been made with a direct influence on project results;
ii) validation protocol requirements have not been met; or
iii) there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be certified.

The term request for *Clarification* may be used where additional information is needed to fully clarify an issue.

Validation Protocol Table 1: Mandatory Requirements for CDM Project Activities			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements or a request for **Clarification (CL)** where further clarifications are needed.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.*

Validation Protocol Table 2: Requirement Checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	*Gives reference to documents where the answer to the checklist question or item is found.*	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below).A request for **Clarification (CL)** is used when the validation team has identified a need for further clarification.*

Validation Protocol Table 3: Resolution of Corrective Action Requests and Requests for Clarification			
Draft report corrective action requests and requests for clarifications	***Ref. to Table 2***	***Summary of project participants' response***	***Final conclusion***
If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.*	*The responses given by the project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

Figure 1 Validation protocol tables

2.1 Review of Documents

The PDD (version 01 of 16 February 2006) /1/ submitted by Ventos do Sul Energia / Enerfin Enervento S.A and Econergy on 02 March 2006 was assessed by DNV. A further revised version of the PDD /2/ was submitted in 05 April 2006 to address DNV's initial validation findings and was again assessed by DNV.

In addition, a spreadsheet containing calculations of the Combined Margin (ONS Emission Factor SSECO 2002-2004) /5/ and other documents, such as the environmental licences and licence requirements as well as the letters sent to local stakeholders, were assessed during the follow-up interviews.

2.2 Follow-up Interviews

On 04 April 2006, DNV performed interviews with a representative of Enerfin and Econergy, in order to confirm and to resolve issues identified in the document review. This included, but was not be limited to:

- Environment impacts & their control,
- Environment licenses compliance,
- Local Stakeholders consultation process,
- Generation systems,
- Quality procedures.

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve any outstanding issues which need to be clarified for DNV's positive conclusion on the project design.

The initial validation of the project identified 1 (one) *Corrective Action Request*, 6 (six) requests for *Clarification.* The project participant's response to DNV's draft validation report findings, including the submission of a revised PDD in 05 April 2006, addressed the *Corrective Actions* and *Clarifications* to DNV's satisfaction.

To guarantee the transparency of the validation process, the concerns raised are summarised in chapter 3 below and documented in more detail in the validation protocol in Appendix A.

3 VALIDATION FINDINGS

The findings of the validation of the "Osório Wind Power Plant Project" are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

The initial validation findings relate to the project design as documented and described in the PDD of 05 April 2006.

3.1 Participation Requirements

The project participants are Ventos do Sul Energia of Brazil and Enerfin Enervento S.A. of Spain. The host Party Brazil and the Annex I Party Spain meet all relevant participation requirements.

Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of the DNA of Brazil and the Spain, including confirmation by the DNA of Brazil that the project assists in achieving sustainable development.

3.2 Project Design

The project is a grid-connected renewable energy project activity, displacing grid electricity that is partly generated based on fossil fuels with electricity generated from renewable sources (wind) and thus resulting in the reduction of emissions of greenhouse gases in the energy sector.

The objective of the "Osório Wind Power Plant Project" is to generate electricity on a large scale by means of the installation of 75 Enercon 2 MW wind turbines. (25 turbines at the Osório wind farm, 25 turbines at the Sangradouro wind farm and 25 turbines at the Indios wind farm, all sites at Osório municipality). The turbines will have hub heights of 98 m and a total installed capacity of 150 MW, as authorized by ANEEL in Resolutions 690, 691 and 692, issued on 17 December 2002.

The project design engineering reflects good practice through the use of wind turbines of Enercon E-70 manufacture by WOBBEN Wind power / ENERCON GmbH technology, which have 3000 turbines installed in approximately 15 countries.

A 7-year renewable crediting period is selected (with the potential of being renewed twice), starting on 01 January 2007. The expected operational lifetime of the project is 25 years.

The project is expected to bring social benefits (740 jobs during the construction and 25 for operation and maintenance during project lifetime), improvement of local infrastructure and economic benefits to the 15 rural owners, thus contributing to the sustainable development objectives of the Brazilian Government.

The validation did not reveal any information that indicates that the project can be seen as a diversion of ODA funding towards Brazil.

3.3 Baseline Determination

The project applies the approved baseline methodology ACM0002 - "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" /6/.
The project fulfils the conditions under which ACM0002 is applicable considering grid-connected renewable power generation project activities of new electricity capacity additions from wind sources and supplying the Brazilian S-SE-CO grid.
In accordance with ACM0002, an electricity baseline emission factor is calculated as a combined margin, consisting of the average of the operating margin (OM) and build margin (BM) emission factors (see section 3.6).

3.4 Additionality

In accordance with ACM0002, the additionality of the project is demonstrated through the *Tool for the demonstration and assessment of additionality* /7/, which includes the following steps:

Step 0 -Preliminary screening based on the starting date of the project activity:

As the starting date of the CDM project activity is 30 May 2006, this step is not applicable. The contract of Enerfin with Econergy signed on 09 June 2005 evidence that CDM was seriously considered in the decision to proceed with the project activity.

Step 1 - Identification of alternatives to the project activity consistent with current laws and regulations:

The possible baseline scenarios are:

a) business as usual, which means producing electricity to the grid that is partly generated based on fossil fuels, and

b) construction of a new wind energy development with an installed capacity of 150 MW connected to the regional grid. Both scenarios are in compliance with all applicable legal and regulatory requirements.

Step 2 - - Investment analysis:

An investment analysis, namely a benchmark analysis, is presented to demonstrate that - without CER revenues –the "Osório Wind Power Plant Project" would not have made the investments to the construction of a new 150 MW wind energy facility. The argumentation considers that the project IRR of around 7.31% is less than the Brazilian National Treasure Note (NTN-C) of 8.6% + IGPM chosen as an indicator for the benchmark analysis. This benchmark is more conservative compared with SELIC rate (17.6% for 2005).

The results of the IRR analyses were presented to DNV /5/ and evidenced the result considering the electricity price establish by PROINFA and the amount of assured electricity established by ANEEL.

Step 3 - Barrier analysis: Complementarily, Investment barriers, Technological barriers and Barriers due to prevailing practice are presented in the PDD:

a) *Investment barriers*. The higher capital requirements per MW installed and consequently low expected IRR on investments, demands additional guarantees by financial entities.

b) Technological barriers. A wind farm is a relatively new technology to Brazil. DNV could confirm that the use of high technology is necessary to guarantee the stipulated energy output, and this technology is not available from Brazilian electric equipment manufacturers.

c) *Prevailing practice barriers.* DNV could confirm that a project activity of this type is not currently operational in Brazil, only a small number of facilities at the Northeast of Brazil have been installed on an experimental basis.

Step 4 - Common practice analysis:

DNV was able to confirm that the efficient production of energy by wind is not common practice in Brazil.

Step 5 - Impact of CDM registration: The project participants were able to demonstrate that the sale of CERs will provide the complementary incentives for the project to overcome the above presented barrier.

Given the above of the Investment analysis and Technological and Prevailing practice barriers that the project faces, it is sufficiently demonstrated that the project is not a likely baseline scenario.

3.5 Monitoring Plan

The project applies the approved monitoring methodology ACM0002 - "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" /6/.

The monitoring plan for emissions a reduction occurring within the project boundary is based on monitoring the amount of electricity supplied to the grid. The reliability of this monitoring parameter is assured through two-party verification of the amount of electricity sold to ELEKTRO (regional electric company) by Ventos do Sul Energia / Enerfin Enervento S.A. The baseline grid electricity emission factor is determined *ex-ante* and will only be updated at the renewal of the crediting period.

Details of the data to be collected, calibration of measurement instruments, and the frequency of data recording, format and storage location are described. The recording frequency of the data seems appropriate for the project.

Ventos do Sul Energia / Enerfin Enervento S.A are responsible for the project management and monitoring and reporting as well as for training of staff in the appropriate monitoring, measurement and reporting techniques.

The monitoring plan is straightforward and no specific procedures beyond the already established QA/QC procedures will be necessary.

3.6 Calculation of GHG Emissions

Baseline emissions due to displacement of electricity are calculated by multiplying the electricity exported by the project activity to the S-SE-CO grid with an *ex-ante* determined baseline grid emissions factor. The project is not expected to result in GHG emissions due to the use of a renewable energy source (wind) for electricity generation. No potential emission sources of leakage were identified for the project.

The emission reduction calculations have been presented, considering the energy to be delivered to the grid and the Combined Margin, consisting of the average of the operating margin (OM) and build margin (BM) for the S-SE-CO Brazilian grid.

The system boundary for the grid electricity system affected by the project is defined as the South-Southeast and Midwest (S-SE-CO) subsystem of the Brazilian grid. The combined margin emission coefficient for the S-SE-CO grid is determined *ex-ante* in accordance with ACM0002. The calculations were based on electricity generation data provided by the Brazilian Electricity Agency (ANEEL) and the National Electricity System Operator (ONS) for the electricity generated in the South-Southeast-Midwest (S-SE-CO) grid in the years 2002-2004. Data for the years 2002-2004 are the most recent statistics available.

The ONS dataset does not include power plants that dispatch locally. However, it is justified to only include plants dispatched by ONS although they only represent about 80% of the total installed capacity. Data for the remaining plants is not publicly available as these plants operate either based on power purchase agreements which are not under control of the dispatch authority or they are located in non-interconnected systems to which ONS has no access. Hence, these plants are not likely to be affected by a CDM project and the power plants dispatched by ONS are thus representative for the operating margin.

For the determination of the operating margin (OM) emission coefficient, average plant efficiencies for different power plant types established in the IEA study on the Brazilian grid /8/ and IPCC carbon emission factors for specific fuels were applied to calculate plant specific emission coefficients. For the calculation of the build margin emission coefficient, the conservative plant efficiencies recommended by the CDM Executive Board at its 22nd meeting and ACM0002 version 2 were applied. The resulting simple-adjusted OM emission coefficient is 0.4310 tCO_2e/MWh (applying an average λ of 0.5135) and the BM emission coefficient 0.0962 tCO_2e/MWh, resulting in a combined margin emission coefficient of 0.2636 tCO_2e/MWh (weighted average of the build and operating margin).

The λ was calculated by interpolating daily dispatch data for thermal power plants and daily dispatch data for hydropower plants based on data provided by ONS for the years 2002 to 2004. The λ calculations were transparently presented in spreadsheets submitted to and assessed by DNV. The selected approach for calculating λ is in accordance with ACM0002.

3.7 Environmental Impacts

OWPPP has been granted an Environmental Installation License LI Nº702/2005-DL on 14 September 2005, valid until 2 January 2009. This license includes a number of conditions and restrictions. The compliance with this conditions and restrictions were verified during the follow up interview with Enerfin and Econergy. The report issued by Maia Meio Ambiente on 30 March 2006 and Environment Reports issued on 2005 for implementation could evidenced the compliance with conditions and restrictions of Environment Licence.

3.8 Comments by Local Stakeholders

Local stakeholders, such as the Municipal Government, the state and municipal agencies, the Brazilian forum of NGOs, neighboring communities and the office of the attorney general, were invited to comment on the project, in accordance with the requirements of Resolution 1 of the

Brazilian DNA and as verified by copies sent to DNV. One comment was received and adequately addressed by project participants.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD of 16 February 2006 was made publicly available on DNV's climate change website (www.dnv.com/certification/climatechange) and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during a 30 days period from 11 March 2006 to 09 April 2006. No comments were received.

5 VALIDATION OPINION

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the ""Osório Wind Power Plant Project"", at Osório Municipality, Rio Grande do Sul State, Brazil. The validation was performed on the basis of UNFCCC criteria for CDM project activities and relevant Brazilian criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The project participants are Ventos do Sul Energia of Brazil and Enerfin Enervento S.A. of Spain. The host Party Brazil and the Annex I Party Spain meet all relevant participation requirements.

The project is a renewable electricity generation project activity involving a reduction of emissions of greenhouse gases in the grid. The project consists in installation of 75 Enercon 2 MW wind turbines with hub heights of 98 m, with a total installed capacity of 150 MW.

By promoting renewable energy, the project is in line with the current sustainable development priorities of Brazil.

The project applies the approved baseline and monitoring methodology ACM0002*, i.e.* "*Consolidated baseline methodology for grid-connected electricity generation from renewable sources*"*. The baseline methodology has been correctly applied and the assumptions made for the selected baseline scenario are sound. . It is sufficiently demonstrated that the project is not a likely baseline scenario and that emission reductions attributable to the project are additional to any that would occur in the absence of the project activity.*

A combined margin emission coefficient of 0.2636 tCO_2e/MWh is calculated in accordance with ACM0002*, i.e. the average of the approximate operating margin and the build margin. The determination of this combined margin emission coefficient is based on actual electricity generation data provided by the National Electricity System Operator (ONS) for the years 2002-2004 for the South-Southeast-Midwest grid.*

The monitoring methodology has been correctly applied. The monitoring plan sufficiently specifies the monitoring requirements of the main project indicators.

By displacing fossil fuel-based electricity with electricity generated from the wind, the project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

Local stakeholders, such as the Municipal Government, the state and municipal agencies, the Brazilian forum of NGOs, neighboring communities and the office of the attorney general, were invited to comment on the project, in accordance with the requirements of Resolution 1 of the Brazilian DNA and as verified by copies sent to DNV. One comment was received and adequately addressed by project participants.

In summary, it is DNV's opinion that the ""Osório Wind Power Plant Project"" as described in the revised project design document of 05 April 2006, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology for ACM0002 *CDM project activities.*

Hence, DNV will request the registration of the ""Osório Wind Power Plant Project"" as CDM project activity.

Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of the DNA of Brazil and the Spain, including confirmation by the DNA of Brazil that the project assists in achieving sustainable development.

REFERENCES

Documents provided by the project proponent that relate directly to the project:

/1/ Econergy: Project Design Document for the "Osório Wind Power Plant Project" Version 1 (16 February 2006);

/2/ Econergy: Project Design Document for the "Osório Wind Power Plant Project" Version 2 (05 April 2006);

/3/ Spreadsheets for the calculation of the combined margin emission Coefficient (ONS-Emission factors S-SE-CO 2002-2004-2006.03.09.xlsS-SE-CO).

/4/ Spreadsheet Osorio CER for the calculation of IRR and NPV 03.02.2006

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

/5/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*. http://www.vvmanual.info

/6/ Approved Baseline and Monitoring Methodology ACM0002: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources". Version 05 of 03 March 2006.

/7/ CDM Executive Board: Tool for the demonstration and assessment of additionality. Version 02 of 28 November 2005

/8/ Bosi, M., A. Laurence, P. Maldonado, R. Schaeffer, A. F. Simoes, H. Winkler and J.-M. Lukamba: Road testing baselines for greenhouse gas mitigation projects in the electric power sector. OECD and IEA information paper, October 2002.

Persons interviewed during the validation, or persons who contributed with other information that are not included in the documents listed above:

/9/ Alvaro Martin Garcia de Pablos – Enerfin

/10/ Virginia Gante - Econergy

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APPENDIX A

CDM VALIDATION PROTOCOL

Table 1 Mandatory Requirements for Clean Development Mechanism (CDM) Project Activities

Requirement	Reference	Conclusion	Cross Reference / Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art.12.2	OK	Table 2, Section E.4.1 The PDD identifies the Enerfin Enervento S.A. of Spain as participating Annex I project participant
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, CDM Modalities and Procedures §40a		Table 2, Section A.3 Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of the DNA of Brazil and the Spain, including confirmation by the DNA of Brazil that the project assists in achieving sustainable development.
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	OK	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authority of each party involved	Kyoto Protocol Art. 12.5a, CDM Modalities and Procedures §40a	-	Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of voluntary participation from the DNA of the participating Parties.
5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section E
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Kyoto Protocol Art. 12.5c, CDM Modalities and Procedures §43	OK	Table 2, Section B.2

Requirement	Reference	Conclusion	Cross Reference / Comment
7. In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of these Parties.	Decision 17/CP.7, CDM Modalities and Procedures Appendix B, § 2	OK	The validation did not reveal any information that indicates that the project can be seen as a diversion of ODA funding towards Brazil.
8. Parties participating in the CDM shall designate a national authority for the CDM	CDM Modalities and Procedures §29	OK	The Brazilian designated national authority for the CDM is the Comissão Interministerial de Mudança Global do Clima. The Spain DNA is the Oficina Española de Cambio Climático, Ministerio de Medio Ambiente
9. The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol	CDM Modalities §30/31a	OK	Brazil has ratified the Kyoto Protocol on 23 August 2002. Spain has ratified the Kyoto Protocol on 31 May 2002.
10. The participating Annex I Party's assigned amount shall have been calculated and recorded	CDM Modalities and Procedures §31b	OK	The assigned amount units of the Spain are 92% of the emissions in 1990.
11. The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7	CDM Modalities and Procedures §31b	OK	Spain has in place a national registry and reports its GHG inventory to the UNFCCC on an annual basis.
12. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received	CDM Modalities and Procedures §37b	OK	Table 2, Section G
13. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	CDM Modalities and Procedures §37c	OK	Table 2, Section F

Requirement	Reference	Conclusion	Cross Reference / Comment
14. Baseline and monitoring methodology shall be previously approved by the CDM Executive Board	CDM Modalities and Procedures §37e	OK	Table 2, Section B.1.1 and D.1.1
15. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	CDM Modalities and Procedures §37f	OK	Table 2, Section D
16. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	CDM Modalities and Procedures §40	OK	The PDD of 16 February 2006 was published for public comments in the period of 11 March 2006 to 09 April 2006 on www.dnv.com/certification/ClimateChange and comments were invited via the UNFCCC CDM website. No comments were received.
17. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	CDM Modalities and Procedures §45c,d	OK	Table 2, Section B.2
18. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	CDM Modalities and Procedures §47	OK	Table 2, Section B.2
19. The project design document shall be in conformance with the UNFCCC CDM-PDD format	CDM Modalities and Procedures Appendix B, EB Decision	OK	PDD is in accordance with CDM-PDD (version 02 of 1 July 2004).

Table 2 Requirements Checklist

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
A. General Description of Project Activity *The project design is assessed.*					
A.1. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project.*					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	/1/	DR	The "Osório Wind Power Plant Project" is constituted by Osório, Sangradouro and Indios wind farms all located at Osório municipality, Rio Grande do Sul State.		OK
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	/1/	DR	The project boundary is the site where the wind farms are located. The system boundary for the determination of the combined margin emission factor is the South-Southeast and Midwest (S-SE-CO) subsystem of the Brazilian grid, which is the grid electricity system affected by the project.		OK
A.2. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.*					
A.2.1. Does the project design engineering reflect current good practices?	/1/	DR	The project design engineering reflects good practice.		OK
A.2.2. Does the project use state of the art technology	/1/	DR	The technology used is wind turbines		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
or would the technology result in a significantly better performance than any commonly used technologies in the host country?			Enercon E-70 manufacture by WOBBEN Wind power / ENERCON GmbH technology with 3000 units installed around 15 countries.		
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	/1/	DR	The project is unlikely to be replaced by other more efficient technologies, at least within the first 7-year crediting period.		OK
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	/1/	DR	Manufacturer is responsible to transfer technology during the construction and training of technicians for manufacturing, operation and maintenance of the facilities		OK
A.2.5. Does the project make provisions for meeting training and maintenance needs?	/1/	DR	Yes.		OK
A.3. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	/1/	DR	The project is authorized by ANEEL Resolutions 690, 691 and 692 issued on 17 December 2002. OWPPP has been granted an Environmental Installation License LI Nº702/2005-DL on 14 September, 2005, valid until 2 January 2009. This license included many conditions and restrictions. The compliance with these conditions and restrictions will be verified during the site visit.	~~CL 3~~	OK
A.3.2. Is the project in line with host-country specific CDM requirements?	/1/	DR	Local stakeholders, such as the Municipal Government, the state and municipal agencies, the Brazilian forum of NGOs, neighbouring communities and the office of	~~CL 4~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			the attorney general, were invited to comment on the project, in accordance with the requirements of Resolution 1 of the Brazilian DNA. Evidences of letters will be verified during site visit.		
A.3.3. Is the project in line with sustainable development policies of the host country?	/1/	DR	The project is in line with current sustainable development priorities in Brazil. Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written confirmation by the DNA of Brazil that the project assists in achieving sustainable development.		
A.3.4. Will the project create other environmental or social benefits than GHG emission reductions?	/1/	DR	The project is expected to bring social benefits (740 jobs during the construction and 25 for operation and maintenance during project lifetime), improvement of local infrastructure and economic benefits to the 15 rural owners, thus contributing to sustainable development objectives of the Brazilian Government.		OK
B. Project Baseline *The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*					
B.1. Baseline Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B.1.1. Is the baseline methodology previously approved by the CDM Executive Board?	/1/	DR	The project applies the approved baseline methodology ACM0002 - "Consolidated	~~CAR 1~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			baseline methodology for grid-connected electricity generation from renewable sources". However, the methodology applied is version 4, while there is a new version 5 in force.		
B.1.2. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?	/1/	DR	The project fulfils the conditions under which ACM0002 is applicable considering grid-connected renewable power generation project activities of new electricity capacity additions from wind sources and supplying the Brazilian S-SE-CO grid.		OK
B.2. Baseline Determination *The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.*					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	/1/	DR	In accordance with ACM0002, an electricity baseline emission factor is calculated as a combined margin, consisting of the average of the operating margin (OM) and build margin (BM) emission factors. The emission coefficient calculations were transparently presented in spreadsheets submitted to and verified by DNV.		OK
B.2.2. Has the baseline been determined using conservative assumptions where possible?	/1/	DR	The baseline emission calculations are according to ACM0002. It is justified to only include plants dispatched by ONS although they only represent about 80% of the total installed capacity. Data for the remaining plants is not publicly available as these		

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			plants operate either based on power purchase agreements which are not under control of the dispatch authority, or they are located in non-interconnected systems to which ONS has no access. Hence, these plants are not likely to be affected by a CDM project and the power plants dispatched by ONS are thus representative for the operating margin. The build margin emission coefficient is calculated considering the plants energy efficiency as established by EB22 and the 20% capacity additions of the most recently installed plants dispatched by ONS. The calculation of BM emission coefficient must be updated with regard to the requirements contained in the latest version of ACM0002, i.e. if 20% falls on part capacity of a plant, that plant is fully included in the calculation. Even though the S-SE-CO grid is connected with the North-Northeast grid, the energy flow between these grids is heavily limited by the transmission lines capacity. It is hence appropriate to consider the S-SE-CO grid for the purpose of determining the BM and OM emission coefficient and consider imports from the North-Northeast grid at 0 tCO_2/MWh in accordance with ACM0002.	~~CAR 1~~	OK
B.2.3. Has the baseline been established on a project-specific basis?	/1/	DR	See B.2.1		OK
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political	/1/	DR	All the national and/or sectoral policies implemented during the initial phase were considered. The project was applied to the		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
aspirations?			PROINFA (Programme of Incentives to the Alternative Sources of Electric Energy) however this incentive was established by Decree 5025 on 30 March 2004, consequently according to the Annex 3 of EB 16, this kind of regulation is considered as Type E- (implemented after 11 November 2001) then has not be taken into account in developing baseline scenario.		
B.2.5. Is the baseline determination compatible with the available data?	/1/	DR	The λ factor was calculated by interpolating hourly dispatch data for thermal power plants and hourly dispatch data for power plants, based on data provided by ONS for the years 2002 to 2004.		OK
B.2.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	/1/	DR	See B.2.1		OK
B.2.7. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario?	/1/	DR	In accordance with ACM0002, the additionality of the project is demonstrated through the Tool for the demonstration and assessment of additionality /7/, which includes the following steps: Step 0 -Preliminary screening based on the starting date of the project activity: As the starting date of the CDM project activity is 30 June 2006, this step is not applicable. However, DNV requests evidences that CDM was seriously considered in the decision to proceed with the project activity. Step 1 - Identification of alternatives to the project activity consistent with current laws and regulations: The possible baseline	~~CL 1~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			scenarios are: a) business as usual which means producing electricity to the grid that is partly generated based on fossil fuels and b) construction of a new wind energy development with an installed capacity of 150 MW connected to the regional grid. Both scenarios are in compliance with all applicable legal and regulatory requirements. Step 2 - - Investment analysis: An investment analysis, namely a benchmark analysis, is presented to demonstrate that - without CER revenues - "Osório Wind Power Plant Project" would not have made the investments to the construction of a new 150 MW wind energy facility. The argumentation considers that the project IRR of around 0.23% is smaller than the Brazilian National Treasure Note (NTN-C) of 8.6% + IGPM) chosen as an indicator for the benchmark analysis. This benchmark is more conservative compared with SELIC (17.6% 2005). The results of the IRR analyses were presented to DNV on the PDD, without detailing the calculations. DNV requests the detailed calculations of the NPV and IRR, not including the depreciation and amortization but the residual value of the project after 21 years and PROINFA electricity price. Step 3 - Barrier analysis: Investment barriers, Technological barriers and Barriers		

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			due to prevailing practice are presented in the PDD: a) Investment barriers. The higher capital requirements per MW installed and consequent low expected IRR on investments, demanded additional guarantees by financial entities. The financial information and implementation costs will be verified during the site visit. b) Technological barriers. A wind farm is a quite recent new technology on Brazil. DNV could confirm that the use of high technology is necessary to guarantee the stipulated energy output, and this technology is not available from Brazilian electric equipment manufacturers. c) Prevailing practice barriers. DNV could confirm that a project activity of this type is not currently operational in Brazil, only a small number of facilities at the Northeast of Brazil were installed on experimental basis. Step 4 - Common practice analysis: DNV was able to confirm that the efficient production of energy by wind is not common practice in Brazil. Step 5 - Impact of CDM registration: After the confirmation of the benchmark analyses, the project participants would be able to demonstrate that the sale of CERs will provide the necessary incentives for the project to alleviate the above presented barriers.	~~CL 2~~ ~~CL 1~~	

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
B.2.8. Have the major risks to the baseline been identified?	/1/	DR	Yes		OK
B.2.9. Is all literature and sources clearly referenced?	/1/	DR	Yes		OK
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	/1/	DR	The project is forecasted to start on 30/05/2006 with an expected lifetime of 25 years. Evidences of the project's starting data will be verified during site visit.	~~CL 5~~	OK
C.1.2. Is the assumed crediting time clearly defined (renewable crediting period of seven years with two possible renewals or fixed crediting period of 10 years with no renewal)?	/1/	DR	A renewable 7-year crediting period (with the potential of being renewed twice) was selected, starting on 01/01/2007.		OK
D. Monitoring Plan *The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed ((Blue text contains requirements to be assessed for optional review of monitoring methodology prior to submission and approval by CDM EB).*					
D.1. Monitoring Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
D.1.1. Is the monitoring methodology previously approved by the CDM Executive Board?	/1/	DR	The project applies the approved monitoring methodology ACM0002 - "Consolidated baseline methodology for grid-connected	~~CAR 1~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			electricity generation from renewable sources". The methodology used was in its version 4, while there is a new version 5 in force.		
D.1.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?	/1/	DR	Yes. The monitoring methodology is applicable as established on ACM0002.		OK
D.1.3. Does the monitoring methodology reflect good monitoring and reporting practices?	/1/	DR	The monitoring methodology of ACM0002 is correctly applied and calculation of emission reductions will use data based on electricity exported (energy meter) to the grid and consistency will be ensured through sales records and double check by receipt of sales.		OK
D.1.4. Is the discussion and selection of the monitoring methodology transparent?	/1/	DR	Yes.		OK
D.2. Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/1/	DR	Project emissions are considered zero in line with the ACM0002 considering that are no emissions associated with the production of electricity using wind energy.		OK
D.3. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
D.3.1. Does the monitoring plan provide for the	/1/	DR	No potential emission sources of leakage		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
collection and archiving of all relevant data necessary for determining leakage?			were identified for this project.		
D.4. Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/1/	DR	The CO_2 emission factor of the grid is based on ONS information for the years 2002 to 2004, as these are the most updated data available. This coefficient is fixed *ex-ante* and hence no data needs to be monitored in this regard. The methodology used was in its version 4, while there is a new version 5 in force. The calculation of BM emission coefficient must be updated with regard to the requirements contained in the latest version of ACM0002, i.e. if 20% falls on part capacity of a plant, that plant is fully included in the calculation	~~CAR 1~~	OK
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/	DR	See D.4.1		OK
D.4.3. Will it be possible to monitor / measure the specified baseline indicators?	/1/	DR	See D.4.1		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
D.5. Monitoring of Sustainable Development Indicators/ Environmental Impacts *It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.*					
D.5.1. Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	/1/	DR	Neither ACM0002 nor Resolution 1 of the Brazilian DNA require the monitoring of social or environmental indicators.		OK
D.6. Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
D.6.1. Is the authority and responsibility of project management clearly described?	/1/	DR	Project management authority and responsibility will be verified during site visit.	~~CL 6~~	OK
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	/1/	DR	Ventos do Sul Energia / Enerfin Enervento S.A is responsible for the registration, measurement and reporting.		OK
D.6.3. Are procedures identified for training of monitoring personnel?	/1/	DR	Manufacturer is responsible to transfer technology during the construction and training of technicians for manufacturing, operation and maintenance of the facilities		OK
D.6.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	Not applicable.		OK
D.6.5. Are procedures identified for calibration of monitoring equipment?	/1/	DR	As established by legislation.		OK
D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?	/1/	DR	See D.6.1.		OK
D.6.7. Are procedures identified for monitoring,	/1/	DR	See D.6.1.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
measurements and reporting?					
D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/	DR	See D.6.1.		OK
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	/1/	DR	See D.6.1.		OK
D.6.10. Are procedures identified for review of reported results/data?	/1/	DR	Considering the simplicity of the monitoring plan, the verification by the second party (the electricity company) is considered sufficient.		OK
D.6.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	/1/	DR	See D.6.1.		OK
D.6.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	/1/	DR	See D.6.1.		OK
D.6.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	/1/	DR	See D.6.1.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
E. Calculation of GHG Emissions by Source *It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.*					
E.1. Project GHG Emissions *The validation of ex-ante estimated project GHG emissions focuses on transparency and completeness of calculations.*					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	/1/	DR	Project emissions are considered zero in line with the ACM0002 considering that are no emissions associated with the production of electricity using wind energy.		OK
E.2. Leakage *It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed and estimated ex-ante.*					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	/1/	DR	No potential emission sources of leakage were identified for this project.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
E.3. Baseline Emissions *The validation of ex-ante estimated baseline GHG emissions focuses on transparency and completeness of calculations.*					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	/1/	DR	Baseline emissions due to displacement of electricity are calculated by multiplying the electricity exported by the project activity to the S-SE-CO grid with an *ex-ante* determined baseline grid emissions factor. The project is not expected to result in GHG emissions due to the use of a wind for electricity generation. No potential emission sources of leakage were identified for this project The emission reduction calculations have been presented, considering the energy to be delivered to the grid and the Combined Margin calculated through the Operation .and Build Margin. The system boundary for the grid electricity system affected by the project is defined as the South-Southeast and Midwest (S-SE-CO) subsystem of the Brazilian grid. The combined margin emission coefficient for the S-SE-CO grid is determined *ex-ante* in accordance with ACM0002. The calculations were based on electricity generation data provided by the Brazilian Electricity Agency (ANEEL) and the National Electricity System Operator (ONS) for the electricity generated in the South-		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			Southeast-Midwest (S-SE-CO) grid in the years 2002-2004. Data for the years 2002-2004 are the most recent statistics available.		
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	/1/	DR	Yes		OK
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	/1/	DR	Yes		OK
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	/1/	DR	The ONS dataset does not include power plants that dispatch locally. However, it is justified to only include plants dispatched by ONS although they only represent about 80% of the total installed capacity. Data for the remaining plants is not publicly available as these plants operate either based on power purchase agreements which are not under control of the dispatch authority or they are located in non-interconnected systems to which ONS has no access. Hence, these plants are not likely to be affected by a CDM project and the power plants dispatched by ONS are thus representative for the operating margin.		OK
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	/1/	DR	For the determination of the operating margin (OM) emission coefficient, average plant efficiencies for different power plant types established in the IEA study on the Brazilian grid /8/ and IPCC carbon emission factors for specific fuels were applied to calculate plant specific emission coefficients. For the calculation of the build		

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			margin emission coefficient, the conservative plant efficiencies recommended by the CDM Executive Board at its 22nd meeting were applied. The resulting simple-adjusted OM emission coefficient is 0.4310 tCO_2e/MWh (applying an average λ of 0.5135) and the BM emission coefficient 0.1045 tCO_2e/MWh, resulting in a combined margin emission coefficient of 0.2677 tCO_2e/MWh (weighted average of the build and operating margin). The methodology used was in its version 4, while there is a new version 5 in force. The calculation of BM emission coefficient must be updated with regard to the requirements contained in the latest version of ACM0002, i.e. if 20% falls on part capacity of a plant, that plant is fully included in the calculation	~~CAR 1~~	OK
E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	/1/	DR	See E.3.5.		
E.4. Emission Reductions *Validation of ex-ante estimated emission reductions.*					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	/1/	DR	The project is expected to reduce CO_2 emissions to the extent of 784 210 tCO_2e (112 030 tCO_2e / year average) over the 7-year crediting period.		OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
F. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	/1/		OWPPP has been granted an Environmental Installation License LI Nº702/2005-DL on 14 September, 2005, valid until 2 January 2009. This license included many conditions and restrictions. The compliance with this conditions and restrictions will verified during the site visit.	~~CL 3~~	OK
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/1/	DR	See F.1.1		OK
F.1.3. Will the project create any adverse environmental effects?	/1/	DR	See F.1.1		OK
F.1.4. Are transboundary environmental impacts considered in the analysis?	/1/	DR	See F.1.1		OK
F.1.5. Have identified environmental impacts been addressed in the project design?	/1/	DR	See F.1.1		OK
F.1.6. Does the project comply with environmental legislation in the host country?	/1/	DR	See F.1.1		OK
G. Stakeholder Comments *The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.*					
G.1.1. Have relevant stakeholders been consulted?	/1/	DR	Local stakeholders were invited to comment on the project in accordance with the requirements of Resolution 1 of the	~~CL 4~~	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl
			Brazilian DNA. Comments by local stakeholders, such as the Municipal Government, the state and municipal agencies, the Brazilian forum of NGOs, neighbouring communities and the office of the attorney general, were invited. One comment was received.		
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/	DR	See G.1.1		OK
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/	DR	See G.1.1		OK
G.1.4. Is a summary of the stakeholder comments received provided?	/1/	DR	See G.1.1		OK
G.1.5. Has due account been taken of any stakeholder comments received?	/1/	DR	See G.1.1		OK

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
CAR 1 The methodology used was in its version 4, while there is a new version 5 in force. The calculation of BM emission coefficient must be updated with regard to the requirements contained in the latest version of ACM0002, i.e. if 20% falls on part capacity of a plant, that plant is fully included in the calculation.	B.1.1 B.2.2 D.1.1 D.4.1	The PDD has been revised according to the ACM0002 version 5. The BM emission coefficient was updated to 0.0962 tCO_2e/MWh, resulting in an estimated average annual emission reductions of 112 030 tCO_2e. All related data was also updated in the PDD.	The revised PDD, dated 05 April 2006, corrected the requested corrective action. More update data was used in the calculations. This CAR is therefore closed.
CL 1 *Preliminary screening based on the starting date of the project activity:* As the starting date of the CDM project activity is mentioned on PDD/C.1.1 is 30 June 2006 this step is not applicable. **However, DNV requests evidences that CDM was seriously considered in the decision to proceed with the project activity**	B.2.7	Enerfin seriously considered the CDM to proceed with the project activity. This can be confirmed by the Econergy's proposal approved and signed by Enerfin do Brasil on 9 June 2005, before the confirmation of the BNDES financing on 5 October 2005. Both documents will be sent attached to this report to DNV.	Copy of document confirmed the statement. This CL is therefore closed
CL 2 The IRR analyses were presented to DNV on PDD, not in detailed spreadsheets. DNV request the spreadsheets calculation of NPV and IRR evidencing the amount and PROINFA price of electricity, not including the depreciation and amortization but the residual value of project after 21 years	B.2.7	The detailed spreadsheets with the data required will be sent attached to this report to DNV.	Complementary information evidenced the justification of additionality and was considered adequate. This CL is therefore closed.
CL 3 OWPPP has been granted an Environmental Installation License LI Nº702/2005-DL on 14	A.3.1	The informative report regarding the compliance with the conditions and restrictions of the Installation License LI nº 702/2005-DL, developed by MAIA	Copy of document confirmed the statement. This CL is therefore closed

Draft report corrective action requests and requests for clarifications	Ref. to Table 2	Summary of project participants' response	Final conclusion
September, 2005, valid until 2 January 2009. This license included many conditions and restrictions. The compliance with this conditions and restrictions will verify during the site visit.		Meio Ambiente on 30 March, 2006 will be sent attached to this report to DNV.	
CL 4 Local stakeholders, such as the Municipal Government, the state and municipal agencies, the Brazilian forum of NGOs, neighbouring communities and the office of the attorney general, were invited to comment on the project, in accordance with the requirements of Resolution 1 of the Brazilian DNA. Evidences of letters will be verified during the site visit.	A.3.2 G.1.1	The letters sent to the local stakeholders according to the requirements of Resolution 1 of Brazilian DNA will be sent attached to this report to DNV.	Copy of document confirmed the statement. This CL is therefore closed
CL 5 The project start date is 30/06/2006 with an expected lifetime of 25 years. The project's starting data will be verified during site visit.	C.1.1	The project start date is 30/05/2006, and it corresponds to the beginning of the commercial operation of the facility, according to the chronogram established through the wind power generation contract signed between Enerfin Enervento and Wobben WindPower. The referred document will be sent attached to this report to DNV.	Copy of document confirmed the statement. This CL is therefore closed
CL 6 Project management authority and responsibility will be verified during site visit.	D.6.1	In behalf of Enerfin Enervento and Ventos do Sul Energia, the project management authority and responsibility is the director Marco Antonio Morales from Ventos do Sul Energia.	Complementary information evidenced the management and responsibility and was considered adequate. This CL is therefore closed.

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