

VALIDATION REPORT**WORLD BANK****VALIDATION OF THE PROJECT
ACTIVITY
LA VENTA II****REFERENCE NUMBER: 2006/0018/CDM/01****REPORT NUMBER: 05**

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VALIDATION REPORT

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Client: World Bank 1818 H Street, N.W. Washington, DC 20433, USA	
Summary: <p>The Spanish Association for Standardization and Certification (AENOR) has carried out the validation of the Wind Farm project “La Venta II” located in La Venta area near the municipality of Juchitán de Zaragoza in the Isthmus of Tehuantepec, state of Oaxaca, México, on the basis of UNFCCC criteria for the CDM, as well as relevant decisions of the EB. The objectives of the validation are to confirm that the project follows the above criteria and the approved methodology and that the PDD presented by the World Bank, will lead to a realistic determination of the emissions reductions of the project activity. The scope of the validation covers the additionality assessment (investment and barrier analysis), the environmental impact study and the stakeholder consultation. In addition it covers the baseline methodology, the calculation of the emission factor (ex-ante) and the monitoring methodology to quantify the emissions reductions during the operational life of the project.</p> <p>The validation, carried out by AENOR, involved a desk study of the PDD, associated documentation and the approved methodology, followed by a visit to Mexico D.F. and La Venta area in the state of Oaxaca, Mexico, where not only key personnel involved in the project, but also the “Comisario Ejidal” (official representative of land owners), were interviewed. Conformance with legal and environmental regulations was also confirmed and validation meetings were held with CFE and CENACE.</p> <p>Clarifications and corrective actions on a number of issues were requested by AENOR according to desk review and on-site visit conclusions; these were amended satisfactorily by the World Bank and resulted in a new version of the original PDD.</p> <p>In the opinion of AENOR the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria, therefore the project shall be recommended for registration.</p>	

Report No.: 2006/0018/CDM/01	
Report title: LA VENTA II VALIDATION OF CDM PROJECT FOR GHG EMISSION REDUCTION BY WIND ENERGY GENERATION	
Members of the validation equipment Miguel Carrasco García Javier Vallejo Drehs	
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Indexing terms

Wind Farm, CO2, climate change, CDM project,
Mexico national grid, GHG emissions

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VALIDATION REPORT

Abbreviations

ACM0002 (VERSION 6)	Approved consolidated baseline and monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources
BM	Build Margin
CAR	Corrective Action Requested
CCGT	Combined Cycle Gas turbine
CDM	Clean Development Mechanism
CENACE	Centro Nacional de Control de Energía (Energy Control National Center)
CER	Certified Emission Reductions
CFE	Comisión Federal de Electricidad (Federal Electricity Commission)
CL	Clarification
CRE	Comisión Reguladora de Energía (Energy Regulation Commission)
DECISION 3/CMP.1	Modalities and Procedures for a Clean Development Mechanism as Defined in Article 12 of the Kyoto Protocol
DNA	Designated National Authority
EB	Executive Board of the CDM of the Kyoto Protocol
EIA	Environmental Impact Assessment
GHG	Greenhouse Gasses
GWh _e	Electrical Giga Watt hour
GWh _t	Thermal Giga Watt hour
IMNG	Interconnected Mexican National Grid
IPCC	Intergovernmental Panel on Climate Change
LSPEE	Ley del Servicio Público de Energía Eléctrica (Electricity Public Service Law)
MP	Monitoring Plan
MWh	Mega Watt hour
OM	Operating Margin
PDD	Project Design Document
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales (Environment and Natural Resources Ministry)
SENER	Secretaría de Energía (Ministry of Energy in Mexico)
tC	Carbon tonnes
tCO ₂	Carbon dioxide equivalent tonnes
TJ	Tera Joules
UNFCCC	United Nations Framework Convention on Climate Change
WT	Wind Turbine

Conversion Factors and Definitions

Fuel consumption (TJ) = Annual Generation (MWh_e) * (1GWh_e / 1000 MWh_e) / Efficiency (GWh_e / GWh_{therm}) * 3,6 TJ/GWh_{therm}
Emissions (tCO₂) = Fuel consumption (TJ) * Carbon content (tC/TJ) * Oxidation factor * 44 tCO₂ / 12 tC

VALIDATION REPORT

<i>Table of Contents</i>	<i>Page</i>
1 INTRODUCTION	3
1.1 Objective	3
1.2 Scope	4
1.3 GHG Project Description	4
2 METHODOLOGY	5
2.1 Review of Documents	7
2.2 Follow-up Interviews	7
2.3 Resolution of Clarification and Corrective Action Requests	9
3 VALIDATION FINDINGS	9
3.1 Project Design	9
3.2 Baseline	11
3.3 Monitoring Plan	11
3.4 Calculation of GHG Emissions	12
3.5 Environmental Impacts	13
3.6 Comments by Local Stakeholders	13
4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS	14
5 VALIDATION OPINION	15
6 REFERENCES.....	16

Appendix A: Validation Protocol R/DCS/277

VALIDATION REPORT

1 INTRODUCTION

This validation concerns a project implemented by CFE in Mexico to reduce emissions of CO₂ by generating renewable energy coming from wind resources. The objectives of the validation exercise are to confirm that the project meets the necessary CDM criteria, that the project follows the approved methodology, ACM0002 (Version 6), and that the proposals presented by the World Bank in the PDD will lead to a realistic determination of the emissions reductions.

The scope of the validation covers the additionality assessment (investment and barrier analysis), the environmental impact study and the stakeholder consultation. In addition it covers the baseline methodology, the calculation of the emission factor (ex-ante) and the monitoring methodology to quantify the emissions reductions during the operational life of the project.

The project implies the installation of a 83.3 MW wind farm plant near the municipality of Juchitán de Zaragoza in La Venta area, state of Oaxaca, in the south of Mexico. This plant will generate electric energy that would otherwise continue to be generated with fossil fuels power plants.

The validation team consists of the following members:

Mr. Miguel Carrasco García	AENOR	Team Leader. CDM Chief Validator. MSc Energy Technologies & PgD in Finance
Mr. Javier Vallejo Drehs	AENOR	CDM Chief Validator Engineer & MBA

Miguel Carrasco García (Mining Engineer, MSc Energy and Fuel Technologies, Post-graduate Diploma in International Project Finance and Environmental auditor) is Head of Operations in the Climate Change Unit of AENOR. He has participated in every validation and verification performed by AENOR in Africa, Central and South America, Europe and Asia. He has been also involved in international conferences and is responsible for the technical training of foreign auditors.

Before joining AENOR, he has worked in Itevelesa (Industrial services group), Red Eléctrica de España (Transmission system operator) and Aitemin (Research and industrial development firm of natural resources).

Javier Vallejo Drehs (Forestry Engineer, MBA in Instituto de Empresa) is responsible for the Climate Change Unit in AENOR. He has six years work experience in Standardization and Certification activities related with sustainable forest management, environmental risks analysis and assessment reports validation, sustainable reports validation and R+D standardization. He has participated in all the validations and verifications developed by AENOR and he is responsible for the accreditation of AENOR in CDM and JI. He has received extensive training in the CDM and JI validation processes and is responsible for training of new validation and verification personnel.

1.1 Objective

The World Bank has commissioned AENOR to validate “La Venta II” wind farm project. The validation serves as design verification and is a requirement of all Client projects. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is a requirement for all CDM projects and it is considered as necessary to provide assurance of the quality of the project and its intended generation of certified emission reductions (CERs) to stakeholders.

VALIDATION REPORT

UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities as agreed in the Bonn Agreement and the Marrakech Accords.

1.2 Scope

The scope of the validation is to assess all aspects of GHG reduction involved in the project, including the project design, the baseline, the determination of the emission factor of the grid and the procedures proposed for monitoring the emissions reductions in the future.

The following documents were reviewed as part of the scope of the activity:

- PDD, including baseline study and monitoring plan.
- Approved Methodology: ACM0002 (Version. 6)
- Decision 3/CMP.1 and relevant decisions from the EB
- Environmental Impact Assessment of the project.
- Associated documentation (investment analysis, wind resource assessment, etc.)

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. AENOR, based on the Specific Code for the Processing and Conducting of Validation, Registration, Verification and Certification of Kyoto Protocol CDM Project Activities (IE/DCS/66.02), has used a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consultancy services to the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the PDD.

1.3 GHG Project Description

The project will be a wind power plant to be located in Mexico, in the southern state of Oaxaca. The project's purpose is renewable electricity generation to be supplied to the Interconnected Mexican National Grid ("IMNG"). The project's installed capacity and estimated yearly average generation will be 83.3 MW and 307,728 MWh, respectively. The project is expected to displace 192,545 tons of carbon dioxide equivalent per year, which will account to 1,347,815 tCO₂e for the first crediting period (7 years), generating the equivalent amount of greenhouse gasses emissions reductions. The project's greenhouse gasses emissions will be negligible, thus there will be no need to monitor leakage and it will not be taken into account when calculating ERs.

The project will consist in the installation of 98 wind turbine-generators (WTG) each of 0.85 MW capacity, which will add to an 83.3 MW total capacity. The WTG will be distributed in 4 rows approximately 600 meters away from each other. The WTG will be approximately 130 meters away from each other; the height of the WTG will be 44 meters approximately.

The project contributes to sustainable development by:

- a) Assisting the IMNG to keep thermal plants shut and use them only as stand-by power generation, when displacing expensive heavy fuel, diesel, coal and gas-fired generation thus reducing CO₂ emissions to the atmosphere by generating energy without GHG emissions.
- b) Employing local labor in construction and plant management.
- c) Contributing to Mexico's fiscal accounts through the payment of taxes.
- d) Helping the country improves the hydrocarbons trade balance through reduction of oil imports to be used for electricity generation.
- e) Spurring Oaxaca State's economy since it consumes materials of Oaxaca such as cement, metals, wood, and construction equipments, among others.

VALIDATION REPORT

- f) Serving as a demonstration project for clean renewable electricity generation in the country, being the first large scale wind power plant in the country to be built and that will supply electricity to the grid.

The Project is a 83.3 MW wind power project with a capacity factor of 42 %. The minimum expected operational lifetime is 21 years.

- Total Power 83.3 MW
- Rated Power per turbine 0.85 MW
- Rated output Voltage 0.6 kV
- No. of turbines 98
- Equivalent annual operating hours 3694
- Annual Production 307,7 GWh
- Capacity factor 42 %
- Transmission line length 19 km
- Transmission line Voltage 230 kV
- Wind Farm output transformer 34.5kV/230kV

2 METHODOLOGY

The validation of the project was started in October 2006 and concluded in April 2007. The validation was performed in the manner of an audit, where a desk review of the PDD was first undertaken against the approved methodology and CDM and other relevant criteria. The desk review was followed by a site visit to the World Bank, CFE and other key stakeholders in Mexico. Some information was also obtained from selected experts in the field.

In order to ensure transparency, a validation protocol was customized for the project, according to Specific Code IE/DCS/66.02. 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 organizes, provides 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 is enclosed in Appendix A to this report.

VALIDATION REPORT

Validation Protocol Table 1: Mandatory Requirements			
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), or a Corrective Action Request (CAR) of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Validation report.	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 organized 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). Clarification is used when the validation team has identified a need for further clarification.

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Validation 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 Client or other project participants during the communications with the validation team should be summarized in this section.	This section should summarize 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

VALIDATION REPORT

2.1 Review of Documents

The Project Design Document submitted by the World Bank was reviewed against the approved methodology and against CDM and other relevant criteria. Additional background documents related to the project design and baseline were also made available before and during the on-site visit in Mexico. These documents were also reviewed.

The PDD underwent several revisions. To address the corrective actions and clarification requests that arose from the desk review and on-site visit, the World Bank revised the project design document submitted in October 2006 and developed a final version (version 8) submitted in April 2007.

The final validation findings presented in this report related to the project as described in the project design document submitted in April 2007.

2.2 Follow-up Interviews

AENOR conducted interviews with project developers in Mexico to confirm selected information and to resolve issues identified in the document review.

From 2006-11-08 to 2006-11-11 representatives from the World Bank, CFE, CENACE and “Comisario Ejidal” (official representative of landowners) were interviewed in Mexico during the on-site validation.

The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization Person/Position	Interview topics
WORLD BANK Carbon Finance Unit <ul style="list-style-type: none">- Fernando Cubillos: Project/deal Manager for the La Venta II- Paola C. Solidoro: Consultant	<ul style="list-style-type: none">➤ Additionality assessment (investment and barrier analysis).➤ Levelized cost: calculation, assumptions indicated in the PDD and sources of information.➤ Ex-ante baseline determination: OM & BM (power plants, electricity production, start of operation, fuels, efficiencies ...).➤ EIA approval and related conditions.➤ Modification to the EIA approval.➤ Monitoring of environmental impacts.➤ Project's sustainable development contribution.➤ Consultation with municipality's authorities, “Comisario Ejidal”, land owners and other stakeholders.➤ Wind resource assessment.➤ DNA's approval.

VALIDATION REPORT

Interviewed organization Person/Position	Interview topics
<p>CFE</p> <p>Generation Division</p> <p>Renewable Projects Department</p> <ul style="list-style-type: none"> - Ing. Roberto Cadenas Tovar: Renewable Projects Deputy Manager - Ing. Juan Andaluz Carmona: Head of Feasibility - Ing. Carlos Sanchez Cornejo: Head of Engineering <p>Management Control Unit</p> <ul style="list-style-type: none"> - Ing. Francisco Noe García - Ing. Silverio García Nolasco - Ing. Martín Alvarez Brambila: Head of Technical Standards Department <p>CENACE</p> <ul style="list-style-type: none"> - Ing. Nemorio Gonzalez Medina: Head of Statistics Unit and Energy Transmission - Ing. Benjamín Carpio Flores 	<ul style="list-style-type: none"> ➤ Additionality assessment (investment and barrier analysis). ➤ Levelized cost: calculation, assumptions indicated in the PDD and sources of information. ➤ O&M of the wind farm. ➤ Technology guarantees. ➤ Transmission line. ➤ Energy investment strategy of CFE. ➤ La Venta II tender. ➤ Clean energy premiums. ➤ SIADIR/SIMO system. ➤ Power plants in Mexico. ➤ 2006, 2005, 2004 and 2003 data (reliability of the data, power plants, availability, production, efficiency, technologies, fuel consumption, electricity imports, ...)
<p>CFE</p> <p>Social development Division</p> <ul style="list-style-type: none"> - Ing. José Luis Hernández Ramírez: Head of Social Development Unit. South region <p>CFE</p> <p>La Venta, Oaxaca. Central Eoloelectrica</p> <ul style="list-style-type: none"> - Ing. Carlos García Aguilar. Managing Director 	<ul style="list-style-type: none"> ➤ “Comisario Ejidal” as official land representative. ➤ Periodical meetings of the land owners. ➤ Uses of land in Mexico under an “Ejido”. ➤ EIA of the project. ➤ Parcels where the WT will be placed (“polígono de influencia”). ➤ Previous use of the land in “La Venta”. ➤ Responsibility for the damages the project could generate. ➤ Benefits for the community. ➤ Differences between the social benefits from a CCGT and a wind farm project in Mexico. ➤ Trust for social actions. ➤ Local jobs.
<p>LAND OWNERS</p> <ul style="list-style-type: none"> - Carlos Antonio Ordaz: “Comisario Ejidal” (Official representative of the “Ejidatarios”, land owners where the project will be located) <p>MUNICIPALITY</p> <ul style="list-style-type: none"> - Luis Angel Ordaz: Municipality Representative <p>SCHOOL</p> <ul style="list-style-type: none"> - Gerardo Arellano: School Manager 	<ul style="list-style-type: none"> ➤ Opinion about the project “La Venta II”. ➤ Opinion about the wind energy and WT technology. ➤ Knowledge of the EIA. ➤ Benefits for the community. ➤ Trust for social actions. ➤ Land owners contracts. ➤ Land owners current socioeconomic situation. ➤ Opinion of the municipality’s authority. ➤ Priority social needs for “La Venta”.

VALIDATION REPORT

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this validation phase was to resolve the requests for corrective actions and clarifications and any other outstanding issues that needed to be clarified for AENOR's positive conclusion on the project design. The three Corrective Action Requests and eight Clarification Requests raised by AENOR were resolved during communications between the World Bank and project participants with AENOR. To guarantee the transparency of the validation process, the concerns raised and responses given are summarized in chapter 3 below and documented in more detail in the validation protocol in Appendix A.

Since modifications to the Project design were necessary to resolve AENOR's concerns, the Client decided to revise the documentation and finally resubmitted the project design documentation in April 2007. After reviewing the revised and resubmitted project documentation, AENOR issued this final validation report and opinion.

3 VALIDATION FINDINGS

The main findings of the validation are stated in the following sections. The validation findings for each validation subject are presented as follows:

- 1) The findings from the desk review of the original project design documents and the findings from interviews during the on-site visit are summarized. A more detailed record of these findings can be found in the Validation Protocol in Appendix A.
- 2) Where AENOR had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. 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.
- 3) Where Clarification or Corrective Action Requests have been issued, the exchanges between project participants and AENOR to resolve these Clarification or Corrective Action Requests are summarized.
- 4) The conclusions for validation subject are presented.

The final validation findings are related to the project design as documented and described in the revised and resubmitted project design documentation.

3.1 Project Design and Additionality

The technology used in "La Venta II" wind farm project is unique for the state of the art in Mexico and is not the common practice there. Moreover, "La Venta II" will be the first large scale wind farm in Mexico (other wind farms projects are under development but also considering the CDM incentive) and this kind of renewable energy source is not similar to any other technology due to its technical characteristics. Electricity generation is based on the wind turbine 0.85 MW from Gamesa (a worldwide leading WT manufacturer). The technology of the project is horizontal axis wind turbines. The project will be composed by 98 WTG of 3 blades each (with power control) and an active system for rotor orientation.

The project's contribution to sustainable development is not only related to electric generation from wind and the subsequent reduction of pollutant emissions, but also to the social benefits that will introduce in the area. The additional incomes that the land owners will receive for land leasing will surely improve their live conditions.

The PDD justifies that the project itself is not a likely baseline scenario through the demonstration of its additionality by applying the Tool for the demonstration and assessment of additionality (Version 2). The alternatives presented in the Step 1 are realistic and credible since CFE could implement not only clean technology projects but also a CCGT as indicated in the PDD. Other compulsory alternatives are

VALIDATION REPORT

presented such as the implementation of the project without the CDM incentive and the continuation of the current situation (zero option).

When conducting the investment analysis, the unit cost of service (levelized cost of electricity) has been selected as the financial indicator most suitable for the project type and decision-making context. From the investment analysis it arises that the levelized cost for the Project (55.43 \$/MWh) is greater than the other alternative studied, CCGT 83,6 MW (36.72 \$/MWh).

Critical techno-economic parameters and assumptions are reasonable and were audited during the on-site validation in Mexico:

La Venta II 83.3 MW 21 years	<ul style="list-style-type: none"> - The discount rate assumed in the PDD (12%) is the minimum rate required by the CFE for investment projects in the public sector. - The source of the exchange rate is the Official Newspaper of Mexico. - The cost per MWh and the cost per MW were based on the "Feasibility study of the La Venta II (50 MW wind power project), April 2003, Global Energy Concepts, LLC". - The land lease payment is considered now a fixed operating expense and has been updated. - The estimated annual operating expenses have been updated according to the inflation and the revaluation of the Euro currency. The scheduled maintenance (part of the fixed operating expenses) and the unscheduled maintenance (part of the variable operating expenses) are based on the data provided by WT manufacturer (Gamesa). - The initial investment is in line with the figures of the wind energy market (1 M€/ MW). - The factor plant is based on the wind resource and energy assessment. - The calculation is made considering an operational life time of 21 years and a discount rate of 12%.
CCGT 83.6 MW 30 years	<ul style="list-style-type: none"> - As all CCGT built in Mexico are over 200 MW, the source of information is the international reference "Gas Turbine World 2004-2005 Handbook". - The installed capacity (83.60 MW) and the initial investment (48,989,600 \$) is based on "Gas Turbine World 2004-2005 Handbook". - The cost per MWh (40.39 \$) is the result of considering the fuel cost (39,21), the water (0,942) and the material cost (0,24). The reference is a typical 291 MW CCGT from the source COPAR. - Cost per MW, load factor and NEC are based on COPAR. - COPAR stands for "COstos y PArámetros de Referencia para la formulación de proyectos de inversión" (Cost and reference parameters for the investment project development). - The income for installed capacity (MW-year) is calculated according to the tariff HT-L and considering the southern region. - The calculation is made considering an operational life time of 30 years and a discount rate of 12%.

To prove the robustness of the conclusion, a sensitivity analysis has been carried out considering a variation in the load factor (+- 20%) and the initial investment cost (+-20%). The project has a higher cost indicator than the alternative under these different scenarios and therefore the project cannot be considered the most financially attractive alternative. Step 2 demonstrates the additionality of the project.

On the other hand, Step 3 describes the barriers that would prevent the implementation of the project such as technological barrier and barriers due to prevailing practice. The two identified barriers will not prevent to implement a CCGT (alternative 2) or zero option (alternative 3) since in Mexico there is a vast experience in natural gas-fired combined cycle power plant.

Step 4 highlights the fact that no wind farm has been built in Mexico exploiting the adequate wind resource, only grid-connected project La Venta I with 1.575 MW and off-grid Guerrero Negro with 0.6 MW that can not be considered similar to the proposed project. Some projects are being developed in the same region but all considering the CDM such as Bii Nee Stipa (registered), Bii Nee Stipa III (registered), Eurús (registered) and La Ventosa (under validation). The project is the "first of its kind" as no project activity of this type is currently operational in Mexico.

VALIDATION REPORT

To finalize the PDD shows in the Step 5 how the project will benefit from the CERs revenues, considering a market price of \$7.23 per tCO₂e that could improve the project's financial gap by \$4.52/MWh or by 24%.

3.2 Baseline

The PDD describes the baseline methodology, which is in conformance with the approved baseline methodology ACM0002 (Version 6) for grid-connected electricity generation from renewable sources. The key conclusions about the correct application are summarized below.

La Venta II wind farm, complying with Mexico's Electricity Public Service Law, will supply electricity to Mexico's national grid. The system boundaries are the Mexico national grid as there are no energy transmission constraints. The source of data of the grid is CFE and CENACE.

The baseline emission factor (EF_y) has been calculated ex-ante according to the three steps stated in ACM0002 (Version 6). The Operational Margin (OM) and the Build Margin (BM) have been calculated and combined to obtain the Baseline Emission factor.

The dispatch data analysis method was the first choice considered, but this method could not be used for this project activity because data are not publicly available. The simple OM has been selected and the OM is calculated as the generation-weighted average emissions per electricity unit (tCO₂/MWh) of all generating sources serving the system, not including low-operating cost and must-run power plants. The reason for selecting the simple OM method among the other two methods (simple adjusted OM or Average OM) is that the low-cost/must run resources in México are well below 50% of total grid generation in both the average of the five most recent years and in the long-term normals for hydroelectricity production. The emission factor for imports is considered zero as stated in the methodology.

For the purpose of determining the Build Margin (BM) emission factor, the spatial extent is limited to the project electricity system. The group of plants considered is the power plant capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently. This option comprises the larger annual generation. Imports are also considered as a build margin source with an emission factor equal to zero.

Other variables considered such as the carbon content and oxidation factor are from IPCC 1996 Guidelines on GHG Inventory (The revised 2006 Guidelines for National Greenhouse Gas Inventories, IPCC).

3.3 Monitoring Plan

The project applies the methodology for "zero-emissions grid-connected electricity generation from renewable sources", ACM0002 (Version. 6). This monitoring methodology can be used for electricity capacity additions from wind sources that do not involve switching from fossil fuels and where the system boundary can be clearly identified and information of the characteristics of the grid are available.

The project meets these conditions, specifically: The grid, which the project activity is connected to, is clearly identifiable and there is no fuel switching at the site of the project activity. La Venta II project is connected to Mexico's national electricity grid via a 19 Km long line.

In accordance with ACM0002 (Version. 6) requirements, the MP provides information about frequency, responsibility and authority for controlling, correct deviations and reporting during the crediting period of the following:

- Electricity generation from the wind farm.

To ensure the quality of the data, in particular those that are measured, the data are double-checked against commercial data.

VALIDATION REPORT

The PDD indicates that the DOE (when performing the verification of the emission reductions achieved by La Venta II) will have access to the reporting of the environmental and social monitoring plans agreed between CFE and the World Bank for the project. Specifically, these plans are given by: The “Manual de Vigilancia de la Fauna (Aves y Quirópteros) en la zona de influencia de la central eólica la Venta II, municipio de Juchitán- Oaxaca” and the “Indigenous People Development Program for La Venta II”, respectively.

3.4 Calculation of GHG Emissions

The methodologies for calculating emission reductions are transparently documented and comply with existing good practice. The calculation methods applied to the determination of emission reduction are explained in detail in the PDD and they follow the procedures laid down in the approved methodology. The project consists of a wind farm with an installed capacity of 83.3 MW that is foreseen to generate an average of 307,7 GWh of electricity per year. In the absence of the project, the same level of demand for electricity would be met by fossil-fuel power generation with associated GHG emissions of an estimated 0.62570 tCO₂/MWh (fixed ex-ante). The average annual emission reductions to be achieved by the project are 192,545 tCO₂/year.

The system boundaries are the national grid of Mexico taking electricity imports into account, which is considered appropriate since information on the characteristics of the grid is available to calculate emission reductions using the simple OM method described in ACM0002 (Ver. 6).

Formulas and factors used to calculate the Operating Margin and the Build Margin are properly described in the PDD and are considered correct and transparent.

Electricity production is based on official data from CENACE and CFE. During the on-site visit in Mexico, different interviews were scheduled and official files were provided to the validation team:

- DGBSEN 2005-2004-2003 and PIE 2005-2004-2003 from CENACE and CFE.
- Unidades Generadoras en Operación 2005 (Generating Units under Operation 2005) from CFE.
- IMP 2005-2004-2003 from CFE.
- Starting date of the new power plants additions in 2002.

Efficiency factors for coal, natural gas combined cycle, natural gas simple cycle, diesel and residual fuel oil plants are obtained from “SIMO” (Sistema del Informe Mensual de Operación) (Monthly Operating Reporting System) and “Unidades Generadoras en Operación 2005” (Generating Units under Operation 2005) from CFE. Efficiencies per technology are calculated as the generation-weighted average of the different power plants efficiencies that share the same technology and use the same fuel.

A conservative approach was considered when calculating the baseline with efficiencies of 2005 values (greater than 2004 and 2003 values). Therefore, PDD is demanding less CERs since these efficiencies lead to fewer fuel consumption and therefore fewer CO₂ emissions.

Imports, based on official data from CFE were considered. 0 tCO/MWh as emission factor was selected according to the methodology.

Low-cost/must run were not included in the calculation. This group includes wind, geothermal, hydro and nuclear power plants.

The formulas used to determine emissions are:

- Fuel consumption (TJ) = Annual Generation (MWh_e) * (1GWh_e /1000 MWh_e) / Efficiency (GWh_e/GWh_{therm}) * 3,6 TJ/GWh_{therm}
- Emissions (tCO₂) = Fuel consumption (TJ) * Carbon content (tC/TJ) * Oxidation factor * 44 tCO₂ / 12 tC

VALIDATION REPORT

Uncertainties and risks associated with the data used in the project to calculate baseline emissions arise from accuracy of CFE and CENACE data.

3.5 Environmental Impacts

According to Mexican law (General Law of Ecological Equilibrium and Environmental Protection-Ruling in Environmental Impact), proposals for electricity generation with wind sources must undertake an environmental impact study and submit it to the corresponding Federal Office of SEMARNAT. The authorization for La Venta II was granted by SEMARNAT on July 29th, 2004 and is granted upon compliance with 17 terms and 5 conditions (under the 6th term).

The first term refers to the technical characteristic, location, required area and construction works of the project:

- Power: 100 MW
- Number of WTs: 118
- Hub height: 60 m
- Rotor diameter: 52 m
- Area: 59.19 ha

The second term refers to the operational life of the project, 25 years.

The 6th term establishes five conditions:

1. Develop and submit an Environment Management Plan.
2. Submit a reforestation program.
3. Preserve the soil.
4. Submit a Bird Monitoring Program.
5. Submit a restoration and demolition plan after the operational life of the project.

The promoter shall also develop and submit annual monitoring reports to different authorities (conditions 1, 2, 3 and 4)

The 9th term requires the promoter to develop and submit an annual report to SEMARNAT and PROFEPA with all the information established in the terms of the EIA approval. This requirement is described in the PDD (section D.2.) and it is also indicated in the monitoring section. The DOE responsible for the verification of the emissions reductions during the crediting period of the project will be then notified about the need to audit the environmental fulfillment of the project.

A modification to the EIA approval was presented and authorized by SEMARNAT on 2006-01-13 (Ref. SGPA/DGIRA/DDT/0055/06). The final characteristics of the project are:

- Power capacity: 83.3 MW
- Number of WTs: 98
- Hub height: 44 m
- Area: 34.23 ha

3.6 Comments by Local Stakeholders

According to national regulations for public consultation processes included in the General Law of Ecological Equilibrium and Environmental Protection-Ruling in Environmental Impact, it is not necessary to carry out a public consultation process unless an affected party applies to SEMARNAT for it. During the on-site visit, the validation team did not find out any request from land owners applying for such consultation.

The “Comisario Ejidal”, official representative of the land owners “Ejidatarios” where the project will be implemented was interviewed during the on-site visit to La Venta. Land owners have participated in the

VALIDATION REPORT

development by leasing their lands to the project through the permanent meetings held in the community with the management of the “Comisario Ejidal”.

The opinion and comments of the “Comisario Ejidal” and the land owners are summarized below:

- The overall opinion on the project is very positive.
- Every issue has been agreed during the land owner meetings.
- Few land owners decided not to lease their lands and the promoter has accepted this position. No WT is erected without the permission of the land owner.
- The project will contribute to the municipality’s incomes even more than other governmental initiatives such as “Procampo”. The incomes from the leasing will require no effort and therefore landowners can continue with their normal activities.
- The remuneration is fair and land owners are receiving money even if the WT is not in their lands (e.g. access roads).
- The project will use local workers for the development, construction and operation.

It is important to highlight that in order to attend the social actions requested by the Ejido La Venta, CFE has opened a trust of 7,834,000 Mexican Pesos (783,400 US Dollars) to be spent in a social agenda agreed with the community.

During the on-site visit, the validation team could confirm that some social actions were carried out such as the acquisition of computers, the pavement of streets, etc.

Moreover the sponsor facilitated interviews with the school manager and the municipality representative that were also in favor of the project. La Venta II represents for this community a unique opportunity to improve the quality of life and the education of the future generations.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

According to Decision 3/CMP.1, the validator shall make publicly available the PDD and receive, within 30 days, comments on the validation requirements from parties, stakeholders and UNFCCC accredited NGOs and make them publicly available.

AENOR published the project documents on CDM website (<http://unfccc.cdm.int>) on 2006-10-10 and invited comments by Parties, stakeholders and non-governmental organizations. No comments were received.

VALIDATION REPORT

5 VALIDATION OPINION

AENOR has performed a validation of the “La Venta II” project in Mexico. The validation was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation, the on-site visit and the subsequent follow-up interviews have provided AENOR with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. Moreover, AENOR has already received the written approval of voluntary participation from the DNA and the host Party confirmation that the project activity assists in achieving sustainable development of Mexico. The project will hence be recommended by AENOR for registration with the UNFCCC.

By displacing fossil fuel-based electricity with electricity generated from a renewable source, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. An analysis of the investment, technological barriers and common practice in Mexico demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project will be implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

The validation is based on the information made available to us and the engagement conditions detailed in this report.

VALIDATION REPORT

6 REFERENCES

Category 1 documents: Documents provided by the project proponents that relate directly to the GHG components of the project. These have been used as direct sources of evidence for the determination conclusions.

Category 2 documents: Background documents related to the design and/or methodologies employed in the design or other reference documents. Where applicable, Category 2 documents have been used to check project assumptions and confirm the validity of information given in the category 1 documents.

Category	Ref	Document Name	Date	Author/Competent Authority
1	1	PDD La Venta II	2006-11	World Bank
2	2	ACM0002 (VERSION 6) - Consolidated methodology fro grid-connected electricity generation from renewable sources --- Version 6	2006-05-19	CDM - Executive Board
2	3	Tool for the demonstration and assessment of Additionality	2005-11-28	CDM - Executive Board
2	4	Official Newspaper (Jan 17, 2006) of Mexico	2006-01-17	Secretaria de Gobernación
1	5	Feasibility Study of the La Venta II 50 MW Wind Power Project in Oaxaca, Mexico	2003-04	Global Energy Concepts
1	6	Presupuesto 80MW con OyM (80 MW project budget)	2006	CFE – Subdirección de Generación – Gerencia de Proyectos Geotermoeléctricos
1	7	Wind resource and energy assessment	2005-08-30	GAMESA
1	8	COPAR page 1.7 (discount rate) page A4 table A1 (fuel cost) page A7 table A4 (cost per MW & material cost) page 6.32 table 6.2 (water cost) page 1.8 table 1.2 (load factor & NEC)		CFE
1	9	Gas Turbine World 2004-2005 Handbook Page 38 (installed capacity and initial investment)	2005	Pequot Publication
1	10	HT-L Tariff	2006	CFE
1	11	Economical proposal of Gamesa under the International Tender No. 18164093-004-05.		Gamesa
2	12	Inflation in Mexico (official statistics)		Banco de Mexico
1	13	2006, 2005 and 2004 efficiencies (overall electricity system and different technologies)	2006	CFE (SIADIR/SIMO)
1	14	Efficiencies (NECs): Units	2005	CFE (SIADIR/SIMO)
1	15	Unidades Generadoras en Operación 2005 (Generating Units under Operation 2005)	2005	CFE
1	16	Files DGBSEN 2005, 2004 and 2003 (Power plants, units, production, technology, fuels, etc.)	2005 2004 2003	CENACE
1	17	Files PIE 2005, 2004 and 2003 Official statistics (power plants, units, production, technology, fuel, etc.)	2005 2004 2003	CFE
1	18	Files IMP 2005, 2004 and 2003 Official statistics (imports)	2005 2004 2003	CFE
1	19	Starting date of the new power plants additions in 2002.	2002	CENACE

VALIDATION REPORT

Category	Ref	Document Name	Date	Author/Competent Authority
1	20	EIA Approval. S.G.P.A./DGIRA.DEI.1836.04	2004-07-29	SEMARNAT
1	21	EIA Approval (83.3 MW) SGPA/DGIRA/DDT/0055/06	2006-01-13	SEMARNAT
1	22	Información para la evaluación y resolución de la solicitud de modificación del proyecto eólico La Venta II. (Information for the amendment of the EIA approval)	2005/2006	CFE
1	23	Manual de Vigilancia de la fauna (aves y quirópteros) en la zona de influencia de la central eólica La Venta II. (Bird monitoring manual)	2006-07	CFE and Instituto de Ecología
1	24	Act signed on December 12th 2005 related to the trust for social actions	2005-12-12	Ejido "La Venta" - CFE
1	25	DNA approval	2006-10-10	DNA of Mexico
2	26	Electric Sector Forecast 2005-2014	2006	SENER
2	27	Electric Sector Forecast 2004-2013	2005	SENER
2	28	Electric Sector Forecast 2003-2012	2004	SENER
2	29	Programa de obras e inversiones del sector eléctrico 2007-2016. (Investment program for the electrical sector, 2007-2016)	2006	CFE
2	30	Programa de obras e inversiones del sector eléctrico 2005-2014. (Investment program for the electrical sector, 2005-2014)	2004	CFE
2	31	Programa de obras e inversiones del sector eléctrico 2004-2013. (Investment program for the electrical sector, 2004-2013)	2003	CFE
2	32	Programa de obras e inversiones del sector eléctrico 2002-2011. (Investment program for the electrical sector, 2002-2011)	2001	CFE
2	33	IPPC 1996 Revised Guidelines	1996	IPCC
2	34	Kyoto Protocol - Status of Ratification	2005-09-19	UNFCCC
2	35	General law of ecological balance and environmental protection	23-02-2005	SEMARNAT
2	36	General law of ecological balance and environmental protection Ruling Act on Environmental Auditing	29-11-2000	SEMARNAT
2	37	General law of ecological balance and environmental protection Ruling Act on Environmental Impact Assessment	30-05-2000	SEMARNAT
2	38	Methodology to determine the charges corresponding to transmission services of electric energy for renewable energy		CFE
2	39	Interconnection contract for a renewable energy source		CFE
2	40	Energy Regulation Commission Act	23-01-1998	CRE
2	41	Electricity Public Service Law	22-12-1993	CRE
2	42	Public Electric Services Ruling Act	24-5-2001	CRE

VALIDATION REPORT

Category	Ref	Document Name	Date	Author/Competent Authority
2	43	Public Electric Services Ruling Act on Contributions	10-11-1998	CRE

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VALIDATION REPORT

ANNEX A

VALIDATION PROTOCOL

CDM VALIDATION PROTOCOL**WORLD BANK****VALIDATION OF THE PROJECT
ACTIVITY:****LA VENTA II****REFERENCE NUMBER: 2006/0018/CDM/01****REPORT NUMBER: 04**

Validation Type	
Validation of a project activity	
Validation team: Miguel Carrasco García Javier Vallejo Drehs	
Address: C/ Génova, 6 28004 Madrid Tlf: +34 91 4326004	Date: 2007-03-16

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	YES	Table 2, Section B.12.1
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, Marrakesh Accords, CDM Modalities §40a	YES	Table 2, Section A.3 Letter of Approval by the DNA of Mexico dated 2006-10-10
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	YES	Table 2, Section B.12.1
4. The project shall have the written approval of voluntary participation from the designated national authorities of each party involved	Kyoto Protocol Art. 12.5a, Marrakesh Accords, CDM Modalities §40a	YES	Letter of Approval by the DNA of Mexico dated 2006-10-10
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	YES	Table 2, Section B
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, Marrakesh Accords, CDM Modalities §43	YES	Table 2, Section B.2
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Marrakech Accords	N/A	There is not foreseen to receive or seek any

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			public funding from any Annex I Party and AENOR has not come across any indication about ODA during the validation process.
8. Parties participating in the CDM shall designate a national authority for the CDM	Marrakech Accords, CDM Modalities §29	YES	Government of Mexico has designated "Comisión Intersecretarial de Cambio Climático" to act as DNA.
9. The host country shall be a Party to the Kyoto Protocol	Marrakech Accords, CDM Modalities §30	YES	Date of ratification: 07/09/00 Source: UNFCCC
10. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received	Marrakech Accords, CDM Modalities §37b	YES	Table 2, Section E
11. 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.	Marrakech Accords, CDM Modalities §37c	YES	Table 2, Section D
12. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel	Marrakech Accords, CDM Modalities §37e	YES	Table 2, Section B.1.1 and B.3.1
13. Provisions for monitoring, verification and reporting shall be in	Marrakech	YES	Table 2, Section B

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	Accords, CDM Modalities §37f		
14. 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	Marrakech Accords, CDM Modalities, §40	YES	The project design document has been made publicly available on 2006-10-17 on UNFCCC web site.
15. 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	Marrakech Accords, CDM Modalities, §45c,d	YES	Table 2, Section B.2
16. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, CDM Modalities, §47	YES	Table 2, Section B.2
17. The project design document shall be in conformance with the UNFCCC CDM-PDD format	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	YES	

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of Project Activity <i>The project design is assessed.</i>					
A.1. Project Boundaries <i>Project Boundaries are the limits and borders defining the GHG emission reduction project.</i>					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	1 20 21 22	DR I	The project will be located in the Southern State of Oaxaca, in the Municipality of Juchitán de Zaragoza, in the Ejido La Venta. The project site is 500 meters north from La Venta locality and 30 km northeast from Juchitán de Zaragoza City (capital of the Municipality of Juchitán de Zaragoza). The project will be located at 30 masl and will impact a 949.84 hectares total area.	OK	OK
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	1 20 21 22	DR I	The PDD describes the wind turbine (technology, number, location and height) to be used as the main component to mitigate GHGs. Authorization granted by SEMARNAT on July 29 th , 2004 has to be provided.	GL1	OK
A.2. Technology to be employed <i>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.</i>					
A.2.1. Does the project design engineering reflect	1	DR	The project design engineering reflect current good practices:	GL1	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
current good practices?	5 6 7 11 23 24	I	<ul style="list-style-type: none"> - The technology assessment to optimize the electricity production by means of a wind turbine with power control to exploit both high and low speed winds. - WT distances to avoid trail effect. - Voltage transformers and transmission line. - Meters - Scada Control system - EIA - Consultation with land owners and habitants nearby the project. - Relevant set of Mexican regulations has been considered. <p>Authorization granted by SEMARNAT on July 29th, 2004 has to be provided.</p>		
A.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1 20 21 22	DR	<p>The project uses the state of the art technology to generate electricity from wind source.</p> <p>After wind measurements and analysis, the optimal wind turbine (maximum energy output assuring its reliability throughout the lifecycle of the wind farm) selected is a 3 blade-WT with power control and an active system for rotor orientation.</p>	OK	OK
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1 20 21 22	DR	<p>The project technology will not be likely substituted by other technology.</p> <p>It could be possible a re-powering to increase the installed capacity during the wind farm lifetime since the wind energy resource in the location is excellent as confirms the equivalent annual operating hours.</p> <p>Nevertheless, this possible re-powering would be probably carried out with just high rated power WTs and increased hub height but it is unexpected during the fixed crediting period.</p>	OK	OK
A.2.4. Does the project require extensive initial training	1	DR	The project requires initial training and maintenance efforts since wind technology is not common in	CL2	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
and maintenance efforts in order to work as presumed during the project period?		I	Mexico. Clarify if technology providers or other companies will be responsible for operation and maintenance.		
A.2.5. Does the project make provisions for meeting training and maintenance needs?	1	DR I	Clarify if technology providers or other companies will be responsible for operation and maintenance.	GL2	OK
A.3. Contribution to Sustainable Development <i>The project's contribution to sustainable development is assessed.</i>					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	1 38 39 40 41 42 43	DR I	The project is developed by a Mexican public company. The project is in compliance with all legal and regulatory requirements, especially Mexico's Electricity Public Service Law. Article 1 of México's EPSL confirms that it is the exclusive right of the Mexican nation to generate, conduct, transform, distribute, and provide electricity as a public service. Therefore, there will not be granted concessions to privates and the nation will make good use of the goods and natural resources that are required to perform this right through the CFE (the sponsor).	OK	OK
A.3.2. Is the project in line with host-country specific CDM requirements?	1 25	DR	Letter of Approval by the DNA of Mexico dated yyyy-mm-dd	CAR4	OK
A.3.3. Is the project in line with sustainable development policies of the host country?	1 25	DR	Letter of Approval by the DNA of Mexico dated yyyy-mm-dd. The approval letter of the Mexico's DNA shall state clearly that the project is in line with sustainable development policies of Mexico.	CAR4	OK
A.3.4. Will the project create other environmental or	1	DR	According to the PDD the project contribute to sustainable development by:	GL3	OK

¹ Although the sponsor is a public entity, it pays income taxes.

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
social benefits than GHG emission reductions?	24	I	<ul style="list-style-type: none"> - Assisting the IMNG to keep thermal plants shut and use them only as stand-by power generation, when displacing expensive heavy fuel, diesel, coal and gas-fired generation thus reducing CO2 emissions to the atmosphere by generating energy without GHG emissions. - Employing local labor in construction and plant management. - Contributing to Mexico's fiscal accounts through the payment of taxes¹. - Helping the country improves the hydrocarbons trade balance through reduction of oil imports to be used for electricity generation. - Spurring Oaxaca State's economy since it consumes materials of Oaxaca such as cement, metals, wood, and construction equipments, among others. <p>During the on-site visit these benefits will be assessed.</p>		
B. Project Baseline and Monitoring <i>The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.</i>					
B.1. Baseline Methodology <i>It is assessed whether the project applies an appropriate baseline methodology.</i>					
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	1 2	DR	The project applies approved baseline methodology ACM0002. Approved consolidated baseline methodology. "Consolidated baseline methodology for grid-connected electricity generation from	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			renewable sources".		
B.1.2. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?	1 2	DR	Approved baseline methodology ACM0002 is applicable to grid-connected renewable power generation project activities under several conditions. The PDD clearly demonstrates the applicability by fulfilling all applicability conditions.	OK	OK
B.2. Baseline Determination <i>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.</i>					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	1 2 13 14 15 16 17 18 19 26 27 28 29 30 31 32 33	DR I	<p>The baseline emission factor (EFy) has been calculated according to the three steps stated in ACM0002. The Operational Margin (OM) and the Build Margin (BM) have been calculated and combined to obtain the Baseline Emission factor.</p> <p>Dispatch data analysis method was the first choice considered, but this method will not be used for this project activity because of the lack of available public data for its calculation. The simple OM has been selected and the OM is calculated as the generation-weighted average emissions per electricity unit (tCO₂/MWh) of all generating sources serving the system, not including low-operating cost and must-run power plants. The reason for selecting the simple OM method among the other two methods (simple adjusted OM or Average OM) is that the low-cost/must run resources in México are well below 50% of total grid generation in both the average of the five most recent years and in the long-term normals for hydroelectricity production</p> <p>The determination of the Build Margin (BM) emission factor is based on the power plant capacity additions in the electricity system that comprise 20% of the</p>	CAR2	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			<p>system generation.</p> <p>OM, BM and the baseline emission factor (EFy) are calculated ex-ante.</p> <p>Official data used from CENACE and CFE have been used ensuring robust and reliable data for the baseline calculation.</p> <p>Baseline calculation has to be audited during the validation visit in Mexico:</p> <ul style="list-style-type: none"> - Ex-ante calculation: data from the most recent 3 years. - Electricity production broke down into technologies and electricity imports. - NECs - Source for oxidation factor and carbon content. 		
B.2.2. Has the baseline been determined using conservative assumptions where possible?	1 13 15	DR I	To be assessed once CAR2 is solved.	CAR2	OK
B.2.3. Has the baseline been established on a project-specific basis?	2	DR	The approved methodology AMC0002 is based on elements from different project-specific methodologies.	OK	OK
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	1 26 27 28 29 30 31 32	DR I	<p>The baseline for the Project is determined following the method and formulae given in the approved methodology ACM0002. The baseline scenario is the following: electricity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.</p> <p>The methodology calculates an emission factor for Mexico's national grid based on a operating and a build margin emission factor.</p> <p>By the application of these factors and based on the documents referred to in the PDD, energy policies and trends are included.</p>	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.2.5. Is the baseline determination compatible with the available data?	1 13 14 15 16 17 18 19	DR I	The baseline determination is compatible with the available and official data from CENACE and CFE.	OK	OK
B.2.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	1 26 27 28 29 30 31 32	DR I	The baseline scenario would to be construct new fossil fuel based power plants mainly Combined Cycle plants according to CFE and SENER forecasts.	OK	OK
B.2.7. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario (e.g. through (a) a flow-chart or series of questions that lead to a narrowing of potential baseline options, (b) a qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely, (c) a qualitative or quantitative assessment of one or more barriers facing the proposed project activity or (d) an indication that the project type is not common practice in the proposed area of implementation, and not required by a Party's legislation/regulations)?	1 3 4 5 6 7 8 9 10 11 12 26	DR I	<p>The PDD justifies that the project itself is not a likely baseline scenario through the demonstration of its additionality by applying the Tool for the demonstration and assessment of additionality.</p> <p>From the investment analysis it arises that the levelized cost (\$ / MWh) for the project is higher than other alternatives studied (CCGT 83,6 MW – 30 years). To prove the robustness of the conclusion, a sensitivity analysis has been carried considering a variation in the load factor and the initial investment cost. Step 2 is complete and demonstrates the additionality of the project.</p> <p>On the other hand, step 3 describes the barriers that would prevent the implementation of the project such as technological barrier and barriers due to prevailing</p>	GL4	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	27 28 29 30 31 32		practice. The fact that no wind farm has been built in Mexico exploiting the adequate wind resource (only a very little experience from CFE that can not be considered similar to the proposed project), demonstrates itself that exist barriers that prevent the implementation of this type of clean energies. The project is the “first of its kind” as no project activity of this type is currently operational in Mexico. The calculation of the levelized cost for the project and the alternative has to be audited during the validation visit in Mexico.		
B.2.8. Have the major risks to the baseline been identified?	1 26 27 28 29 30 31 32	DR	By using the official forecast, some risks to the baseline are included such as gas prices, renewable production, etc.	OK	OK
B.2.9. Is all literature and sources clearly referenced?	1 33	DR	Baseline data and calculations are not clearly referenced in all cases.	CAR2	OK
Monitoring Plan <i>The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed</i>					
B.3. Monitoring Methodology <i>It is assessed whether the project applies an appropriate baseline methodology.</i>					
B.3.1. Is the monitoring methodology previously	1	DR	The project applies approved monitoring methodology	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
approved by the CDM Methodology Panel?	2		ACM0002. Approved consolidated monitoring methodology ACM0002. "Consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources".		
B.3.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?	1 2	DR	The appropriateness of the monitoring methodology is justified in the PDD.	OK	OK
B.4. Monitoring of Project Emissions <i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i>					
B.4.1. 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 2	DR	N/A.	OK	OK
B.4.2. Are the choices of project GHG indicators reasonable?	1 2	DR	N/A.	OK	OK
B.4.3. Will it be possible to monitor / measure the specified project GHG indicators?	1 2	DR	N/A.	OK	OK
B.4.4. Will the indicators give opportunity for real measurements of achieved emission reductions?	1 2	DR	N/A.	OK	OK
B.4.5. Will the indicators enable comparison of project data and performance over time?	1 2	DR	N/A.	OK	OK
B.5. Monitoring of Leakage <i>It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.</i>					
B.5.1. Does the monitoring plan provide for the	1	DR	N/A.	OK	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
collection and archiving of all relevant data necessary for determining leakage?	2				
B.5.2. Have relevant indicators for GHG leakage been included?	1 2	DR	N/A.	OK	OK
B.5.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1 2	DR	N/A.	OK	OK
B.5.4. Will it be possible to monitor the specified GHG leakage indicators?	1 2	DR	N/A.	OK	OK
B.6. Monitoring of Baseline Emissions <i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i>					
B.6.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	1 2	DR	N/A. The EF will be calculated ex-ante and will be fixed during the crediting period.	OK	OK
B.6.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	1 2	DR	N/A. The EF will be calculated ex-ante and will be fixed during the crediting period.	OK	OK
B.6.3. Will it be possible to monitor the specified baseline indicators?	1 2	DR	N/A. The EF will be calculated ex-ante and will be fixed during the crediting period.	OK	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.7. Monitoring of Sustainable Development Indicators/ Environmental Impacts <i>It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.</i>					
B.7.1. Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	1 20 21 22 23 24	DR I	<p>The monitoring plan does not provide data related to social and economic impacts such as employment and tax figures.</p> <p>Regarding environmental variables and according to Decision 3/CMP.1, paragraph H "Monitoring", point (d), the monitoring plan (as part of the PDD) shall provide the collection and archiving of information relevant to the provisions in the paragraph 37 (c), which it is related to environmental impacts and the corresponding approval of the host Party.</p>	CAR3	OK
B.7.2. Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?		DR I	See B.7.1	CAR3	OK
B.7.3. Will it be possible to monitor the specified sustainable development indicators?		DR I	See B.7.1	CAR3	OK
B.7.4. Are the sustainable development indicators in line with stated national priorities in the Host Country?	1 25	DR	<p>Letter of Approval by the DNA of Mexico dated yyyy-mm-dd.</p> <p>The approval letter of the Mexico's DNA shall state clearly that the project is in line with sustainable development policies of Mexico.</p>	CAR4	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.8. Project Management Planning <i>It is checked that project implementation is properly prepared for and that critical arrangements are addressed.</i>					
B.8.1. Is the authority and responsibility of project management clearly described?	1	DR	There is a description of the ERCP organizational structure and the MP Steering Committee.	OK	OK
B.8.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1	DR	The ERCP Manager is responsible for the calculation of the ERs.	OK	OK
B.8.3. Are procedures identified for training of monitoring personnel?	1	DR	The Baseline Emission Factor is fixed ex-ante for the first crediting period and thus ERs depend only on the multiplication of the fixed baseline emission factor ("CM") calculated in this document (tCO ₂ /MWh) times the project generation in the year – this is to be calculated by the ERCP Manager.	OK	OK
B.8.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	1	DR	N/A	OK	OK
B.8.5. Are procedures identified for calibration of monitoring equipment?	1	DR	Detailed information regarding meters and calibration is provided in the PDD.	OK	OK
B.8.6. Are procedures identified for maintenance of monitoring equipment and installations?	1	DR	As the baseline emission factor is calculated ex-ante. Only electricity production has to be monitored by means of calibrated meters. Detailed information regarding meters and calibration is provided in the PDD.	OK	OK
B.8.7. Are procedures identified for monitoring, measurements and reporting?	1	DR	A procedure (ERCP) deals with data, quality of data collection, data processing, data storage and data delivery.	OK	OK
B.8.8. Are procedures identified for day-to-day records handling (including what records to keep,	1	DR	A procedure (ERCP) deals with data, quality of data collection, data processing, data storage and data	OK	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
storage area of records and how to process performance documentation)			delivery.		
B.8.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	1	DR	The Dispatch Center named Centro Nacional de Control de Energía ("CENACE") will be the only data provider for the project generation data. Although CENACE belongs to CFE (the project sponsor), it has independence on its procedures, own legislation and an international standards quality certification achieved. The project staff designated will confirm the data (only variable to be monitored is the electricity generated by the project dispatched to the grid) with own records and own records will be double checked with sales receipts	OK	OK
B.8.10. Are procedures identified for review of reported results/data?		DR	See B.8.7 and B.8.9	OK	OK
B.8.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?		DR	See B.8.7 and B.8.9	OK	OK
B.8.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?		DR	See B.8.7 and B.8.9	OK	OK
B.8.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?		DR	See B.8.7 and B.8.9	OK	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Calculation of GHG Emissions by Source <i>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.</i>					
B.9. Predicted Project GHG Emissions <i>The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.</i>					
B.9.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	1 2	DR	N/A	OK	OK
B.9.2. Are the GHG calculations documented in a complete and transparent manner?	1 2	DR	N/A	OK	OK
B.9.3. Have conservative assumptions been used to calculate project GHG emissions?	1 2	DR	N/A	OK	OK
B.9.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1 2	DR	N/A	OK	OK
B.9.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	1 2	DR	N/A	OK	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.10. Leakage <i>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.</i>					
B.10.1.Are potential leakage effects beyond the chosen project boundaries properly identified?	1 2	DR	N/A	OK	OK
B.10.2.Have these leakage effects been properly accounted for in calculations?	1 2	DR	N/A	OK	OK
B.10.3.Does the methodology for calculating leakage comply with existing good practice?	1 2	DR	N/A	OK	OK
B.10.4.Are the calculations documented in a complete and transparent manner?	1 2	DR	N/A	OK	OK
B.10.5.Have conservative assumptions been used when calculating leakage?	1 2	DR	N/A	OK	OK
B.10.6.Are uncertainties in the leakage estimates properly addressed?	1 2	DR	N/A	OK	OK
B.11. Baseline Emissions <i>The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.</i>					
B.11.1.Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?		DR I	See B.2.1	OK 2	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.11.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	1 2 15 16 17 18 19	DR	Baseline boundaries are established according to rules of the approved methodology AMC0002	OK	OK
B.11.3. Are the GHG calculations documented in a complete and transparent manner?		DR I	See B.2.1	CAR2	OK
B.11.4. Have conservative assumptions been used when calculating baseline emissions?	1 2 15	DR I	To be assessed once CAR2 is solved.	CAR2	OK
B.11.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	1 2	DR I	To be assessed once CAR2 is solved.	CAR2	OK
B.11.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	1 2	DR	N/A. There are no project emissions.	OK	OK
B.12. Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
B.12.1. Will the project result in fewer GHG emissions than the baseline scenario?	1 7	DR I	The project will result in fewer GHG emissions than the baseline scenario through the production of clean energy from wind. The wind resource calculation performed (equivalent annual operating hours) has to be provided as the	GL5	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			estimated production is a key figure for CERs calculation and additionality assessment.		
C. Duration of the Project/ Crediting Period <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1	DR I	The starting date of the project activity was 09/09/2005. Carbon finance help was sought before the starting date of the project activity and such evidence is made available to the DOE. The project activity is expected to have a minimum lifetime of 21 years.	GL6	OK
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	1	DR I	This crediting period is a renewable crediting period starting 01/11/2006. To be clarified the starting date of the crediting period as no retroactive credits will be claimed.	GL7	OK
D. Environmental Impacts <i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.</i>					
D.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	1 20 21 22 23	DR I	The PDD presents a summary of the EIA. Authorization granted by SEMARNAT on July 29 th , 2004 has to be provided.	GL4	OK
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1 20 21 22 23	DR I	An EIA and the corresponding approval are needed to develop electrical power plants according to articles 28 to 35 of the General Law of Ecological Balance and Environmental Protection. Authorization granted by SEMARNAT on July 29 th ,	GL4	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			2004 has to be provided.		
D.1.3. Will the project create any adverse environmental effects?	1 20 21 22 23	DR I	<p>According to the PDD, potential negative environmental impacts identified in the EIA were basically three:</p> <ul style="list-style-type: none"> - Bird and bats population endangered (most important environmental problem). - Land clearing occasioning loss in fauna and in flora. - Change in the scenery. <p>The potential negative social impact identified is basically one:</p> <ul style="list-style-type: none"> - Land deforestation occasioned by the project will provoke the loss of terrain for agriculture which will affect negatively the economy of the owners of such land. <p>Authorization granted by SEMARNAT on July 29th, 2004 has to be provided.</p>	CL1	OK
D.1.4. Are transboundary environmental impacts considered in the analysis?	1 20 21 22 23	DR	N/A	OK	OK
D.1.5. Have identified environmental impacts been addressed in the project design?		DR I	See D.1.3.	CL1	OK
D.1.6. Does the project comply with environmental legislation in the host country?		DR I	See D.1.2.	CL1	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E. Stakeholder Comments <i>The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.</i>					
E.1.1. Have relevant stakeholders been consulted?	1 24	DR I	<p>Relevant stakeholders have been consulted.</p> <p>An on-site visit to the project location and interviews with land owners and local authorities of La Venta locality has been requested by the validation team.</p> <p>Act signed on December 12th 2005 related to the trust for social actions has to be provided.</p>	CL8	OK
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1 24	DR I	Relevant comments were received what indicates that appropriate media has been used.	OK	OK
E.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 24	DR I	<p>According to article 37 of the Regulation of the General Law of Ecological Balance and Environmental Protection related to Environmental Impact Analysis, the EIAs are at public disposal in SEMARNAT dependencies in Oaxaca. A stakeholder consultation process is not required, unless any interested person apply for this consultation process to the SEMANAT, according to article 40 of the mentioned regulation.</p>	OK	OK
E.1.4. Is a summary of the stakeholder comments received provided?	1 24	DR I	<p>The project has been positively accepted by Ejido La Venta, as per Act signed as of July 18th, 2004. The comments received referred basically to the following questions:</p> <ul style="list-style-type: none"> - Request for more information about the area to be affected by the project - Request for information on who was going to be responsible for damages that the project could generate. - Request for information on what would be the benefits of the project. - Request that benefits be for all communities 	CL8	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			<p>surrounding the project not only for the ones which terrain is directed affected by the project.</p> <p>An on-site visit to the project location and interviews with land owners and local authorities of La Venta locality has been requested by the validation team.</p> <p>Act signed on December 12th 2005 related to the trust for social actions has to be provided.</p>		
E.1.5. Has due account been taken of any stakeholder comments received?	1 24	DR I	<p>The PDD shows that comments, worries and requests were properly addressed by the promoter.</p> <p>An on-site visit to the project location and interviews with land owners and local authorities of La Venta locality has been requested by the validation team.</p> <p>Act signed on December 12th 2005 related to the trust for social actions has to be provided.</p>	CL8	OK

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
<p>CL1</p> <p>Authorization granted by SEMARNAT on July 29th, 2004 has to be provided.</p>	<p>A.1.2 D.1.1 D.1.2 D.1.3 D.1.5 D.1.6</p>	<p>The EIA authorization has been provided to the validation team (S.G.P.A./DGIRA.DEI.1836.04). This authorization was granted by SEMARNAT on July 29th, 2004 and is granted upon compliance with 17 terms and 5 conditions (under the 6th term).</p> <p>The first term refers to the technical characteristics, location, required area and construction works of the project:</p> <ul style="list-style-type: none"> - Power: 100 MW - Number of WTs: 118 - Hub height: 60 m - Rotor diameter: 52 m - Area: 59.19 ha <p>The second term refers to the operational life of the project, 25 years.</p> <p>The 6th term establishes five conditions:</p> <ol style="list-style-type: none"> 1. Develop and submit an Environment Management Plan. 2. Submit a reforestation program. 3. Preserve the soil. 4. Submit a Bird Monitoring Program. 5. Submit a restoration and demolition plan after the operational life of the project. <p>The promoter shall also develop and submit annual monitoring reports to different authorities (conditions 1, 2, 3 and 4)</p> <p>The 9th term requires the promoter to develop and submit an annual report to SEMARNAT and PROFEPA with all the information established in the terms of the EIA approval.</p> <p>This requirement is already described in the PDD (section D.2.).</p> <p>A modification to the EIA approval (power capacity 83.3 MW, 98 WTs and hub height 44 m) was presented and authorized by SEMARNAT on 2006-01-13 (Ref. SGPA/DGIRA/DDT/0055/06).</p>	<p>CL1 is solved</p>

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
CL2 Clarify if technology providers or other companies will be responsible for operation and maintenance.	A.2.4 A.2.5	Gamesa Eolica e Iberinco ("the contractor") will impart training to the project personnel. The training to be performed by the contractor is scheduled for October-November 2006; this course is directed to CFE staff on regards to engineering, design, operation and metering; the course will last 1 month approximately. After this training, the sponsor will has total responsibility for operation and maintenance of the power plant; with the exception of the malfunctioning of equipment provided by the contractor that occur during the first 3-year of operation (guarantee from the contractor). Finally, the contractor will provide operation and maintenance manuals to the sponsor.	CL2 is solved
CAR1 Letter of Approval by the DNA of Mexico dated yyyy-mm-dd	A.3.2 A.3.3 B.7.4	Letter of approval by the DNA of Mexico, dated 2006-10-120, has been provided to the validation team. The letter states clearly that the project will contribute to Mexico's sustainable development.	CAR1 is solved
CL3 During the on-site visit these benefits will be assessed.	A.3.4	During the visit to Mexico, Mexico City and "La Venta" (location of the project), the benefits of this project could be audited by the validation team.	CL3 is solved
CAR2 Baseline calculation has to be audited during the validation visit in Mexico: <ul style="list-style-type: none"> - Ex-ante calculation (data from the most recent 3 years) - Electricity production broke down into technologies and electricity imports. - NECs - Source for oxidation factor and carbon content. 	B.2.1 B.2.2 B.2.9 B.11.1 B.11.3 B.11.4 B.11.5	Electricity production is based on official data from CENACE and CFE. During the on-site visit in Mexico, different interviews were scheduled and official files were provided to the validation team: <ul style="list-style-type: none"> - DGBSEN 2005-2004-2003 and PIE 2005-2004-2003 from CENACE and CFE. - Unidades Generadoras en Operación 2005 (Generating Units under Operation 2005) from CFE. - IMP 2005-2004-2003 from CFE. - Starting date of the new power plants additions in 2002. Electricity production broke down into technologies could be audited. The information presented in the PDD is precise and real. NECs were based on SIMO (Sistema del Informe Mensual de Operación) (Monthly Operating Reporting System) and Unidades Generadoras en Operación 2005 (Generating Units under Operation 2005) from CFE.	CAR2 is solved

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
		<p>A presentation of the reporting system (SIMO) was scheduled during the on-site visit to Mexico.</p> <p>A conservative approach was considered when calculating the baseline with efficiencies of 2005 values (greater than 2004 and 2003 values). PDD is demanding less CERs since these efficiencies lead to fewer fuel consumption and therefore fewer CO2 emissions.</p> <p>Imports, based on official data from CFE were considered. 0 tCO/MWh as emission factor was selected according to the methodology.</p> <p>Low-cost/must run were not included in the calculation. This group includes wind, geothermal, hydro and nuclear power plants.</p> <p>Oxidation and carbon content are taken from IPCC 1996 Guidelines on GHG Inventory (The Revised 1996 Guidelines for National Greenhouse Gas Inventories, IPCC).</p>	
<p>CL4</p> <p>The calculation of the levelized cost for the project and the alternative has to be audited during the validation visit in Mexico.</p>	B.2.7	<p>The calculation of the levelized cost, assumptions and variables were audited during the validation in Mexico.</p> <p>Levelized cost for the Project (83.3 MW) – 21 years:</p> <ul style="list-style-type: none"> - The discount rate assumed in the PDD (12%) is the minimum rate required by the CFE for investment projects in the public sector. - The source of the exchange rate is the Official Newspaper of Mexico. - The cost per MWh and the cost per MW were based on the “Feasibility study of the La Venta II (50 MW wind power project), April 2003, Global Energy Concepts, LLC”. - The land lease payment is considered now a fixed operating expense. - The estimated annual operating expenses have been updated according to the inflation and the revaluation of the Euro currency. The scheduled maintenance (part of the fixed operating expenses) and the unscheduled maintenance (part of the variable operating expenses) are based on the data provided by WT manufacturer (Gamesa). - The initial investment is in line with the figures of the wind energy 	CL4 is solved

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
		<p>market (1 M€/ MW).</p> <ul style="list-style-type: none"> - The factor plant is based on the wind resource and energy assessment. - The calculation is made considering an operational life time of 21 years and a discount rate of 12%. <p>Levelized cost for CC Gas Power Plant (83.6 MW) – 30 years</p> <ul style="list-style-type: none"> - As all CCGT built in Mexico are over 200 MW, the source of information is the international reference “Gas Turbine World 2004-2005 Handbook”. - The installed capacity (83.60 MW) and the initial investment (48,989,600 \$) is based on “Gas Turbine World 2004-2005 Handbook”. - The cost per MWh (40.39 \$) is the result of considering the fuel cost (39,21), the water (0,942) and the material cost (0,24). The reference is a typical 291 MW CCGT from the source COPAR. - Cost per MW, load factor and NEC are based on COPAR. - COPAR stands for “COstos y PArámetros de Referencia para la formulación de proyectos de inversión” (Cost and reference parameters for the investment project development). - The income for installed capacity (MW-year) is calculated according to the tariff HT-L and considering the southern region. - The calculation is made considering an operational life time of 30 years and a discount rate of 12%. 	
<p>CAR3</p> <p>The monitoring plan does not provide data related to social and economic impacts such as employment and tax figures.</p> <p>Regarding environmental variables and according to Decision 3/CMP.1, paragraph H “Monitoring”, point (d), the monitoring plan (as part of the PDD) shall provide the collection and archiving of information relevant</p>	<p>B.7.1 B.7.2 B.7.3</p>	<p>The new PDD indicates that the DOE will have access to the reporting of the environmental and social monitoring plans agreed between CFE and the World Bank for the project. Specifically, these plans are given by: The “Manual de Vigilancia de la Fauna (Aves y Quirópteros) en la zona de influencia de la central eólica la Venta II, municipio de Juchitán- Oaxaca” and the “Indigenous People Development Program for La Venta II”, respectively.</p>	<p>CAR3 is solved</p>

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 2	Summary of project owner response	Validation team conclusion
to the provisions in the paragraph 37 (c), which it is related to environmental impacts and the corresponding approval of the host Party.			
CL5 The wind resource calculation performed (equivalent annual operating hours) has to be provided as the estimated production is a key figure for CERs calculation and additionality assessment.	B.12.1	The plant factor stated in the PDD is in line with the resource calculation provided to the validation team.	CL5 is solved
CL6 The starting date of the project activity was 09/09/2005. Carbon finance help was sought before the starting date of the project activity and such evidence is made available to the DOE.	C.1.1	The promoter has considered the carbon finance help since the beginning of the project but the starting date of the project will be considered as the starting date of the electricity production.	CL6 is solved
CL7 This crediting period is a renewable crediting period starting 01/11/2006. To be clarified the starting date of the crediting period as no retroactive credits will be claimed.	C.1.2	The starting date of the crediting period will be 01/07/2007	CL7 is solved
CL8 An on-site visit to the project location and interviews with land owners and local authorities of La Venta locality has been requested by the validation team. Act signed on December 12 th 2005 related to the trust for social actions has to be provided.	E.1.1 E.1.4 E.1.5	An on-site visit was organized by the promoter to the project site. The "Comissario Ejidal", official representative of the land owners was interviewed. There is a clear opinion in favour of the project and the community supports the management of the promoter. Act signed on December 12 th 2005 related to the trust for social actions has to be provided.	CL8 is solved

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