



# FINAL VALIDATION REPORT

METHANEX CHILE S.A.

CABO NEGRO WIND FARM PROJECT, PHASE 1

**Report No: 8000386559 - 09/518**

**Date: 2011-05-05**

TÜV NORD CERT GmbH  
JI/CDM Certification Program  
Langemarckstraße, 20  
45141 Essen, Germany  
Phone: +49-201-825-3335  
Fax: +49-201-825-3290  
[www.tuev-nord.de](http://www.tuev-nord.de)  
[www.global-warming.de](http://www.global-warming.de)

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Final Approval by:  <b>Rainer Winter</b>	Organisational unit:  <b>TÜV NORD JI/CDM Certification Program</b>
Client:  <b>Methanex Chile S.A.</b>	Client ref.:  <b>Mr. Roger Neumann Medina</b>
Summary:	<input checked="" type="checkbox"/> positive validation opinion <input type="checkbox"/> negative validation opinion
<p>Methanex Chile S.A. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Cabo Negro Wind Farm Project, Phase 1" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board.</p> <p>The project activity consists in the construction of an eolic park for electricity energy generation in Methanex facilities that will replace the fossil fuel based (natural gas) electricity energy generation only for internal consume (grid disconnected).</p> <p>A risk based approach has been followed to perform this validation. In the course of the validation, 07 Corrective Action Requests (CARs) and 11 Clarification Requests (CRs) were raised and successfully closed. In addition no FAR has been issued.</p> <p>The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.</p> <p>In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> <li>- The project is in line with all relevant host country criteria (Chile) and all relevant UNFCCC requirements for CDM.</li> <li>- The project additionality is sufficiently justified in the PDD.</li> <li>- The monitoring plan is transparent and adequate.</li> <li>- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 85,428 tCO<sub>2</sub>e are most likely to be achieved within the 07 years (renewable) crediting period (1<sup>st</sup> November 2010 to 31<sup>th</sup> October 2017).</li> </ul> <p>The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation. The request for registration will not be submitted before the Letter of Approval (LoA) is issued by the Chilean DNA.</p>	

Report No.: <b>8000386559- 09/518</b>	Subject Group: <b>Climate Protection</b>
Report title:  <b>Final Validation Report Cabo Negro Wind Farm Project, Phase 1</b>	
Work carried out by: Inga Köster (TL) Fernando Pacheco Ingo Klein Ricardo Lopes	
Final technical review by:  Alexandra Nebel Rainer Winter	Local technical review by:  -
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#### Indexing terms

Climate protection  
Kyoto Protocol  
CDM  
Validation

- ☒ No distribution without permission from the client or responsible organisational unit
- ☐ Limited distribution
- ☐ Unrestricted distribution

## Abbreviations

<b>ABIF</b>	Banks and Financial Institutional Association from Chile
<b>BAU</b>	Business as usual
<b>CA</b>	Corrective Action / Clarification Action
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CER</b>	Certified Emission Reduction
<b>CL</b>	Clarification Request
<b>CNE</b>	National Energy Commission
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>CO<sub>2e</sub></b>	Carbon dioxide equivalent
<b>CONAMA</b>	National Commission of Environment
<b>CP</b>	Certification Program
<b>DIA</b>	Declaration of Environmental Impact
<b>DNA</b>	Designated National Authority
<b>EB</b>	CDM Executive Board
<b>EIA</b>	Environmental Impact Assessment
<b>FAR</b>	Forward Action Request
<b>GHG</b>	Greenhouse gas(es)
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>PDD</b>	Project Design Document
<b>QC/QA</b>	Quality control/Quality assurance
<b>QMS</b>	Quality Management System
<b>SEIA</b>	National System of Environment Impact Assessment
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VVM</b>	Validation and Verification Manual

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## 1 OBJECTIVE / SCOPE

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

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability 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 seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Manual<sup>VVM</sup>, carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in section V.E. and V.F. of the VVM (version 1.1, EB 51 Annex 3).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions. TÜV NORD JI/CDM CP can not be held liable by any entity for making its validation opinion based on any false or misleading information supplied to it during the course of validation.

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

## 2 GHG PROJECT DESCRIPTION

### 2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

**Table 2-1:** Project Characteristics

Item	Data
Project title	Cabo Negro Wind Farm Project, Phase 1
Project size	<input type="checkbox"/> Large Scale <input checked="" type="checkbox"/> Small Scale
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input checked="" type="checkbox"/> 1 Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/> 2 Energy distribution
	<input type="checkbox"/> 3 Energy demand
	<input type="checkbox"/> 4 Manufacturing industries
	<input type="checkbox"/> 5 Chemical industry
	<input type="checkbox"/> 6 Construction
	<input type="checkbox"/> 7 Transport
	<input type="checkbox"/> 8 Mining/Mineral production
	<input type="checkbox"/> 9 Metal production
	<input type="checkbox"/> 10 Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/> 11 Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/> 12 Solvents use
	<input type="checkbox"/> 13 Waste handling and disposal
	<input type="checkbox"/> 14 Afforestation and Reforestation
	<input type="checkbox"/> 15 Agriculture
Applied Methodology	AMS I.A – Electricity generation by the user, version 13
Crediting period	<input checked="" type="checkbox"/> Renewable Crediting Period (7 y) <input type="checkbox"/> Fixed Crediting Period (10 y)
Start of crediting period <sup>1</sup>	2011/01/01

### 2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

**Table 2-2:** Project Parties and project participants

Characteristic	Party	Project Participants
Host party	Chile	Methanex Chile S.A.

### 2.3 Project Location

The details of the project location are given in table 2-3:

**Table 2-3:** Project Location

No.	Project Location
-----	------------------

<sup>1</sup> As per the final PDD (version 7)

No.	Project Location
Host Country	Chile
Region:	XII <sup>th</sup> Region of Magallanes and Antártica Chilena, Province of Magallanes
Project location address:	Punta Arenas city, Cabo Negro industrial complex, Km 28.5, Ruta 9 Norte street
Latitude:	Turbine 1: 377058 East Turbine 2: 377022 East Turbine 3: 376966 East
Longitude:	Turbine 1: 4131832 North Turbine 2: 4131658 North Turbine 3: 4131484 North

## 2.4 Technical Project Description

The technical key data are provided in table 2-4 below

**Table 2-4a:** Technical data of the project activity – baseline energy generation system

Parameter	Unit	Value
Bolier – 102-U		
Model type	-	Package boiler wall-tube
Pressure	Kg/cm <sup>2</sup>	28.1
Stem maximum capacity	Ton/h	60
Serial Number	-	6768
Temperature	°C	321
Bolier – 106-U		
Model type	-	Package boiler wall-tube
Pressure	Kg/cm <sup>2</sup>	28.1
Stem maximum capacity	Ton/h	60
Serial Number	-	6767
Temperature	°C	321
Bolier – X-611		
Model type	-	Package boiler wall-tube
Pressure	Kg/cm <sup>2</sup>	28.1
Stem maximum capacity	Ton/h	80
Serial Number	-	1019 8
Temperature	°C	321
Bolier – X-614(cogen)		
Model type	-	Package boiler wall-tube
Pressure	Kg/cm <sup>2</sup>	28.1
Stem maximum capacity	Ton/h	56
Serial Number	-	W4333
Temperature	°C	321
Turbine Generator – 113-J		
Model type	-	Synchronous A.C generator
Technology	-	Gas turbine
Frequency	Hz	50

Parameter	Unit	Value
Nominal power	MW	5.6
Voltage	KV	6.9
Generator Serial No.	-	B44327501
Turbine Serial No.	-	R8609/1
Turbine Generator – GST-701		
Model type	-	Synchronous A.C generator
Technology	-	Steam turbine
Frequency	Hz	50
Nominal power	MW	5.6
Voltage	KV	6.9
Generator Serial No.	-	163935-1
Turbine Serial No.	-	D-3798
Turbine Generator – 3GST-701		
Model type	-	Synchronous A.C generator
Technology	-	Steam turbine
Frequency	Hz	50
Nominal power	MW	6
Voltage	KV	6.9
Generator Serial No.	-	L41212501
Turbine Serial No.	-	D4376
Turbine Generator – X-07002		
Model type	-	Synchronous A.C generator
Technology	-	Steam turbine
Frequency	Hz	50
Nominal power	MW	6
Voltage	KV	6.9
Generator Serial No.	-	P-141113-10
Turbine Serial No.	-	D-5389
Turbine Generator – GST-703		
Model type	-	Synchronous A.C generator
Technology	-	Gas turbine, cogeneration
Frequency	Hz	50
Nominal power	MW	6
Voltage	KV	7.2
Generator Serial No.	-	TG00913
Turbine Serial No.	-	TG00913

**Table 2-4b:** Technical data of the project activity – wind farm

Parameter	Unit	Value
Manufacturer	-	Vestas
No. of wind turbines	number	3
Model	-	V52-850 kW 50/60Hz
Generator power	Kw	850
Generator voltage	VAC	690
Generator frequency	Hz	50 – 60
Rotor diameter	m	52
Rotor speed range	RPM	14 to 31.4



Parameter	Unit	Value
No. of Blades	number	3
Length of blades	m	25.3

### 3 METHODOLOGY AND VALIDATION SEQUENCE

#### 3.1 Validation Steps

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- A desk review of the PDD<sup>/PDD/</sup> submitted by the client and additional supporting documents with the use of customised validation protocol <sup>/CPM/</sup> according to the Validation and Verification Manual <sup>/VVM/</sup>,
- Validation planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation.

The sequence of the validation is given in the table 3.1 below:

**Table 3.1:** Validation sequence

Topic	Time
Assignment of validation	2009-10-16
Submission of PDD for global stakeholder commenting process	2010-01-09
On-site visit	2010-01-25 to 2010-01-28
Draft reporting finalised	2010-02-19
Final reporting finalised	2010-10-15
Technical review on final reporting finalised	2010-10-29
Response to request for clarifications made by CDM team during Completeness Check	2011-01-11
Response to request for review made by CDM team	2011-05-05

### 3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

### 3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consistent of one team leader and 2 additional team members, were appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

**Table 3-2:** Involved Personnel

	Name	Company	Function <sup>1)</sup>	Qualification Status <sup>2)</sup>	Scheme competence	Technical competence <sup>4)</sup>	Host country Competence	Team Leading competence
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Inga Köster	TÜV NORD CERT	TL	A	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Ingo Klein	TÜV NORD CERT	TM	A	<input checked="" type="checkbox"/>	T	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Fernando Pacheco	BRTÜV (TUV NORD Brazil), São Paulo	TM	E	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Ricardo Lopes	BRTÜV (TUV NORD Brazil), São Paulo	TM	A	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Alexandra Nebel	TÜV NORD CERT	TR <sup>3)</sup>	A	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Name	Company	Function <sup>1)</sup>	Qualification Status <sup>2)</sup>	Scheme competence	Technical competence <sup>4)</sup>	Host country Competence	Team Leading competence
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rainer Winter	TÜV NORD CERT	TR, FA	SA	<input checked="" type="checkbox"/>	T	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>1)</sup> TL: Team Leader; TM: Team Member, TR: Technical review; FA: Final approval

<sup>2)</sup> GHG Auditor Status: A: Assessor; E: Expert; SA: Senior Assessor; T: Trainee; TE: Technical Expert

<sup>3)</sup> No team member

<sup>4)</sup> As per S01-MU03 or S01-VA070 A2 (such as A, B, C.....)

Certificates of appointment for the above mentioned team members are enclosed in annex 6 of this report.

### 3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments were received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 5 of this report.

### 3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

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

The validation protocol as described in Figure 1.

<b>Validation Protocol Table A-1: Requirement checklist</b>				
<b>Checklist Item</b>	<b>Validation Team Comment</b>	<b>Reference</b>	<b>Draft Conclusion</b>	<b>Final Conclusion</b>
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVM shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CR or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

**Figure 1:** Validation protocol tables

The completed validation protocol is enclosed in Annex 1 to this report.

### 3.6 Review of Documents

The published PDD (version 1) and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

### 3.7 Follow-up Interviews

The validation team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

**Table 3-3:** Interviewed persons and interview topics

<b>Interviewed Persons / Entities</b>	<b>Interview topics</b>
Project proponent representatives Project consultant Government Representatives	<ul style="list-style-type: none"> <li>- Chronological description of the project activity with documents of key steps of the implementation.</li> <li>- Current status of plant design</li> <li>- Technical details of the project realization, project</li> </ul>

Interviewed Persons / Entities	Interview topics
	<p>feasibility, designing, operational life time, monitoring of the project</p> <ul style="list-style-type: none"> <li>- Host Government Approval</li> <li>- Approval procedures and status</li> <li>- Monitoring and measurement equipment and system.</li> <li>- Financial aspects</li> <li>- Crediting period</li> <li>- Project activity starting date</li> <li>- CER allocation / ownership</li> <li>- Baseline study assumptions</li> <li>- Additionality</li> <li>- Sustainable development issues</li> <li>- Monitoring</li> <li>- Analysis of local stakeholder consultation</li> <li>- Roles &amp; responsibilities of the project participants w.r.t. project management, monitoring and reporting</li> <li>- National Legislation</li> <li>- Editorial issues of the PDD</li> </ul>

A comprehensive list of all interviewed persons is part of section 7 'References'.

### 3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

### 3.9 Resolution of Clarification and Corrective Action Requests

#### 3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,

- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

### 3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

### 3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

## 3.10 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

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### **3.11 Final approval**

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).



## 4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised:

**Table 4-1:** Summary of CARs, CLs and FARs issued

Validation topic <sup>1)</sup>	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) - Project specification - Technical project description - Participation - Contribution to sustainable development - PDD editorial aspects - Technology to be employed	1	1	-
Project Baseline, Additionality and Monitoring Plan (B) - Application of the Methodology - Project Boundary - Baseline identification - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Additionality determination - Monitoring Methodology - Monitoring Plan - Project management planning	6	8	-
Duration of the Project / Crediting Period (C)	-	2	-
Environmental impacts (D)	-	-	-
Stakeholder Comments (E)	-	1	-
<b>SUM</b>	<b>7</b>	<b>12</b>	<b>-</b>

<sup>1)</sup> The letters in brackets refer to the validation protocol

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

General	Finding CAR A1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Please provide the LoA for the project with the exact project title as in the PDD (identical to section A.1) and precise name of the project participants (identical to section A.3 of the PDD).		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The letter of approval will be requested to the Chilean Designed National Authority (CONAMA) with the draft version of the PDD (version 2) submitted to the DOE.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The LoA has been submitted by the PP. For an assessment please see section 5.1.1 of this report.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements		

General	Finding CAR B1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The "Tool to determine the baseline efficiency of the thermal electric energy generation system" is not applicable as the baseline system includes also cogeneration unit. Therefore, please remove it from relevant sections of PDD.		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The "Tool to determine the baseline efficiency of the thermal electric energy generation system" was removed of the PDD.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Ok, the tool is no longer applied to the project activity. <b><u>CL is closed.</u></b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements		

General	Finding CAR B2		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR

General	Finding CAR B2
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The historic data used to calculate the ex-ante baseline emissions should include the most recent year (i.e. 2009) for: <ul style="list-style-type: none"> <li>(1) Amount of electricity produced</li> <li>(2) Amount of fuel consumption</li> <li>(3) Net calorific value</li> <li>(4) Steam generation</li> </ul>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The most recent historic data for year 2009 was included for: (1) Amount of electricity produced, (2) Amount of fuel consumption, (3) Net calorific value and (4) Steam generation
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The ex-ante baseline emission was revised and the most recent data from 2009 was included for the following baseline emission calculation: <ul style="list-style-type: none"> <li>(1) Amount of electricity produced</li> <li>(2) Amount of fuel consumption</li> <li>(3) Net calorific value</li> <li>(4) Steam generation</li> </ul> <b>CL is closed.</b>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CAR B3
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR

General	Finding CAR B3
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Please include ex-post monitoring of the operational parameters (i.e. natural gas consumptions, steam generation, steam consumption, electricity generation and natural gas NCV) and ex-post calculation of baseline efficiency.</p> <p>For conservative ex-post calculation of ER, please include in the calculation approach in section B.6.1 that in case the ex-post calculated value for fuel consumption efficiency is higher than the fixed ex-ante figure it shall be used for the calculation of baseline emissions.</p> <p>The rationale for that is that in case any of the generating units is replaced (for more modern and efficient one) or in case the least efficient ones are removed during the crediting unit, fixed ex-ante fuel consumption efficiency for the entire crediting period would not be conservative. Therefore, by monitoring and calculating ex-post the fuel consumption efficiency and using it in case it is higher than the ex-ante figure ensures a conservative calculation of baseline emissions.</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	It was included in the section B6 of the PDD.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>As requested by the validation team the ex-post monitoring of the operational parameters and baseline efficiency was included in the revised PDD. Moreover, in case the ex-post calculated value for fuel consumption efficiency is higher than the fixed ex-ante figure the ex-post value will be used for the calculation of baseline emissions.</p> <p><b><u>CL is closed.</u></b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CAR B4
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.5, in <u>Investment Barrier</u>, it is necessary to demonstrate the use of the internal benchmark (13%) for similar projects with similar risks developed by Methanex (according to EB51 Annex 58, page 3 paragraph 14). In case that is not possible, please consider the approach to establish a suitable benchmark. Additionally, the IRR calculation (11.1%) should be revised applying the evidenced values during the performed site visit.</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	A national benchmark and revised IRR were determined and explained in section B5.

General	Finding CAR B4
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The benchmark determination was revised and it is calculated according to CAPM financial assessment in the revised PDD. Moreover, the IRR (9.2%) was revised and all input values applied could be properly assessed during site visiting. However, a reference supporting the financial parameter values applied for the benchmark determination must be provided in PDD. Please include information for all parameter necessary for the benchmark determination.</p>
<b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>PP prefers the PDD doesn't have the specific source information of the benchmark determination. Therefore the PP is giving the reference supporting the financial parameter values applied for the benchmark determination only for the revision and approval of the DOE and the executive board:</p> <p>1) Excel Document named: "SSC PDD Cabo Negro Wind farm project BENCHMARK" This document details the specific source of each parameter.</p> <p>2) Folder named: "Benchmark Sources" This folder has a copy of each source.</p>
<b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The new identified benchmark (13.6%) was correctly determined and all references of the values applied were provided to the validation team. No deviation could be detected. Please refer to table A-3 for the assessment of the financial parameters used for the benchmark determination.</p> <p><b>CL is closed.</b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<p> <input type="checkbox"/> To be checked during the first periodic verification  <input type="checkbox"/> Appropriate action was taken  <input checked="" type="checkbox"/> Project documentation was corrected correspondingly  <input type="checkbox"/> Additional action should be taken  <input checked="" type="checkbox"/> The project complies with the requirements         </p>

General	Finding CAR B5
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.5 of PDD all input data should be valid at the moment of investment decision and the sources shall be precisely referenced (title of document or website link, pages, paragraph, etc). Additionally, the financial figures provided in PDD (tables B4 and B5) and financial spreadsheet is inconsistent. Therefore, revision is necessary.</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The corrections had been made, and the same references as the spreadsheet were included in the tables of section B.5.</p>

General	Finding CAR B5
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The financial spreadsheet and PDD were correctly revised. No more inconsistencies could be detected. Additionally, all financial parameters were correctly referenced and justified. Please refer to table A-3 for the assessment of financial parameters.</p> <p><b>CL is closed.</b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CAR B6
<b>Classification</b>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.5, <u>Technological Barrier</u>, please revise the argumentation, in line with EB 50 Annex 13, or exclude it altogether.</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Technological Barriers were excluded.</p>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The PDD was revised and technological barriers are no longer presented in the revised PDD.</p> <p><b>CL is closed.</b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CL A1
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section A.4.2, please provide more detailed information including all boilers, steam and gas turbines and generators indicating also the corresponding plants (1, 2, 3 and 4).</p> <p>In addition, please include information on the distance between the wind farm and the Methanex plant and a description of the plant installed capacity in the pre-project and project scenarios and the total internal electricity energy consumption.</p> <p>Furthermore, please include a flow diagram showing all energy generation units including boilers, turbines and generators and both the steam header and the electrical ring of the plant.</p>

General	Finding CL A1
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>In section A.4.2 more detailed information was provided including all boilers, steam and gas turbines and generators indicating also the corresponding plants (1, 2, 3 and 4). Also, the information about the distance, installed capacity in the pre and project scenarios and complete flow diagram was included.</p>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Section A.4.2 of the PDD was revised and the majority of the solicited information is now available. No deviations could be detected. However, it is still necessary to include detail information on the PDD regarding the total amount of internal electricity energy consumption in the pre-project and project activity scenarios. It is important to make clear in the revised PDD that the actual total installed capacity is sufficient to supply Methanex needs without increasing its capacity.</p> <p><b><u>CL remains open</u></b></p>
<b>Corrective Action # 2</b>	<p>In section B.5 detailed information about the current installed capacity of the baseline system and the historic consumption was included, showing that Methanex has no need to expand capacity.</p>
<b>DOE Assessment # 2</b>	<p>Information related to the current installed capacity, current maximum energy generation and maximum historic consume (yearly) were included in section B.5 of the new version of the PDD. However, it is still necessary to include more detailed information related to the following issues:</p> <ul style="list-style-type: none"> <li>- Please, indicate the annual values considered and the reference year for each parameters given in table B6.</li> <li>- Describe the calculation approach used to identify the parameter "Current maximum generation".</li> <li>- Clear evidence that the reference year of 2006 was the Maximum historic consumption and justifies (i.e. based on the plant production and energy consume).</li> </ul> <p><b><u>CL remains open</u></b></p>



General	Finding CL A1
<b>Corrective Action # 3</b>	<p>Section A.4.2 details the main characteristics of the generation equipment, the parameters detailed in table B6 are:</p> <p><u>Current installed capacity</u>: 30.4 MW, it corresponds to the sum of the nominal capacity of each generator detailed in table A.2 in section A.4.2).</p> <p><u>Current maximum generation capacity</u>: 266,304 MWh/year, it corresponds to the product of current installed capacity and 8760 hours per year.</p> <p><u>Maximum historic consumption</u>: 122,523.5 Mwh/year, it corresponds to the higher historic consumption between years 2006 and 2009. The value of each year is detailed in table B11 it correspond to the sum of the energy generation of each equipment as it is detailed in equation B8 and explained in section B71.</p> <p>The values could be found in the spreadsheet of the PDD and were revised during the validation visit.</p> <p>Is important to note that in section B.7.2 is detailed that the data analysis is done considering an occurrence probability analysis that allowed the elimination of data minor than zero and the lower data with an occurrence probability less than 6%. This is the only criteria used to analysed the data as it was revised during the validation visit.</p> <p>Therefore all the information is already detailed in the PDD and checked by the DOE.</p>
<b>DOE Assessment # 3</b>	<p>The current installed capacity and the maximum historic consumption were correctly identified. Additionally, the current maximum generation capacity were conservatively identified considering 24 hours of production per day. Therefore, it is confirmed that Methanex facility does not need to increase its electricity generation capacity.</p> <p><b>CL closed</b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	Finding CL B1
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.5 of PDD, for further transparency please include a timeline of milestones events of project implementation to show early and continuous consideration of CDM precisely referenced and supported by evidences.</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>In section B.5 a timeline of milestones events of project implementation was included.</p>



General	Finding CL B1
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The timeline of milestones events were correctly included in the revised PDD. The CDM was considered and continuous actions were performed to guarantee the CDM status of the project activity. The events listed are supported by evidences<sup>PC/</sup> which were submitted to the validation team.</p> <p>As the start date of the project was after the 2<sup>nd</sup> of August a prior consideration form to ensure CDM status of the project was send to UNFCCC and DNA (Sep 2009) before the project start date. Continuous action was show due to the fact that the contract with the DOE was signed in the same month and GSP started in Jan 2010.</p> <p><b>CL is closed</b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CL B2
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.6.1, please clearly show how the calculation of the fuel consumption efficiency was calculated.</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The fuel consumption efficiency calculation was detailed in section B.6.1</p>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Section B.6.1 of the PDD was revised and all calculation steps of the fuel consumption efficiency are clearly described. According to the real situation evidenced on site and to the technical expertise of the validation team the equations provided are deemed appropriate and will yield a conservative calculation of emission reductions. See section 5 for further assessment.</p> <p><b>CL is closed.</b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CL B3
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR

General	Finding CL B3
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section B.6.3, according to the guidelines for completing the SSC-PDD, please provide a transparent ex-ante calculation of baseline emissions, applying values to all equations described in B.6.1, in a way that the reader can reproduce the calculation.
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	A transparent ex-ante calculation of baseline emissions was provided applying values to all equations described in B.6.1.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section B.6.1 and B.6.3 of the PDD were intensively revised and the calculation approach of the baseline emissions is detailed described. No deviations could be detected.  <b><u>CL is closed.</u></b>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CL B4
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section B.7.2, please include a wiring diagram showing the exact location of the meters to be installed in order to monitor electricity generation. In addition, please include brief statement about data substitution procedures and about maintenance measures to be taken.
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	A brief statement about data substitution procedures and maintenance measures were included in section B.7.2
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The requested information regarding the maintenance measures was included in the revised version of the PDD. However, a detailed wiring diagram including the exact meters location (main and backup) and procedures of data substitution in case of failure of the monitoring equipments should be clearly described in the PDD section B.7.2.  <b><u>CL remains open</u></b>
<b>Corrective Action #2</b>	A wiring diagram including the meters location and an explanation about the case of failure of the monitoring equipments was described in section B.7.2. For the DEO revision the original diagram of the wiring diagram included in the PDD is attached to this document.

General	Finding CL B4
<b>DOE Assessment # 2</b>	<p>The PDD section B.7.2 was revised. Each wind turbine-generator system of the project activity has backup meters installed. In case of failure of the main monitoring meter for based wind electricity generated, the sum of the data available from each of the backup meters will be used. However, it is necessary to provide information in PDD regarding the meters type, location and quantity of the backup meters and procedures of data substitution in case of failure in the monitoring equipments related to the EGi,y monitoring parameter. Additionally, a detailed wiring diagram showing all the meters and their location related to the EGi,y monitoring parameter should be provided.</p> <p><b><u>CL remains open</u></b></p>
<b>Corrective Action # 3</b>	<p>All the information regarding the main meters (type, location, % error and quantity) is already detailed in section B.7.1.</p> <p>The available information about the existing backups meters (only for electricity) was included in section B.7.1.</p> <p>In section B.7.2 was included an explanation of the procedures of data substitution in case of failure in the main monitoring equipments.</p> <p>And in section A.4.2 the wiring diagram was fulfilled considering the existing backup units (the diagram already had the location of each main meter).</p>
<b>DOE Assessment # 3</b>	<p>The solicited information regarding the backup meters applied in the monitoring procedure related to the EGi,y parameter was correctly included in section B.7.1 of the PDD. Moreover, the wiring diagram showing all the meters (main and backup) and their location related was detailed indicated in section A.4.2. In case of failure of any main meter its backup unit will be used for data collection. No deviation could be detected.</p> <p><b><u>CL closed</u></b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	Finding CL B5
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.7.1, please include parameters described in CAR B2 (amount of electricity produced, amount of fuel consumption, net calorific value and steam generation).</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>All monitored parameters were included in section B.7.1</p>

General	Finding CL B5
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Section B.7.1 of the PDD was revised and all monitored parameters applied to the project activity were correctly addressed.</p> <p><b><u>CL is closed.</u></b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> Project documentation was corrected correspondingly</p> <p><input type="checkbox"/> Additional action should be taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

General	Finding CL B6
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.7.1 please:</p> <p>(1) Include more detailed information with respect to all monitoring equipments: type (model or at least specify accuracy class or max error range), quantity, function (main or back up), location, nature (uni or bidirectional);</p> <p>(2) It is necessary to describe a proper QA/QC procedure for the electricity generation parameter. The given information is not conclusive and cannot be accepted as an effective QA/QC procedure. Revision is necessary (i.e. energy balance of the plant/ cross check with other operational parameters).</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Detailed information to all monitoring equipment was provided considering TAG, model and maximum error range</p> <p>Methanex maintenance and control procedures were indicated as QA/QC procedure.</p>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The monitored parameters are detailed addressed in section B.7.1 of the PDD. Measurement equipments are described. However, detailed measurements procedures and QC/QA procedures should be given in section B.7.1 of the revised PDD for the parameter EG WIND<sub>y</sub> and EG<sub>i,y</sub>. Please include information regarding the meter model, accuracy class or max error range of the meter utilized, whether it will be uni or bidirectional, whether there will be a total meter only or also a back up. Additionally, a procedure for crosschecking the monitored data of electricity generated by the wind turbines activity should be given.</p> <p><b><u>CL remains open</u></b></p>
<b>Corrective Action # 2</b>	<p>The meter information related to model, error, direction and back up information was included and procedure for crosschecking the monitored data was detailed in the section B.7.1.</p>

General	Finding CL B6
<b>DOE Assessment # 2</b>	All requested information for the EG WINDy monitoring parameter was correctly included in the revised PDD. There will be a main meter monitoring the total wind energy generation and each of the wind turbines will have a backup meter installed. However, it is necessary to provide more information regarding the fossil fuel based electricity energy generation parameter (EGi,y). Please describe more detailed, the monitoring equipments, its location in the plant and data substitution procedures.  <b><u>CL remains open</u></b>
<b>Corrective Action # 3</b>	Regarding the fuel based electricity generation: Information about main monitoring equipments (type, location, % error and quantity) is already detailed in section B.7.1, its location is already showed in the diagram of section A.4.2. For electricity generation back up meters please see the answer of the CLB4 and sections B7.1 and B7.2 of the PDD.
<b>DOE Assessment # 3</b>	The monitored equipment's applied in the EGi,y parameter monitoring system is detailed described in the revised PDD section A.4.2. A wiring diagram indicates all equipments (main and backup) involved.  <b><u>CL closed</u></b>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input type="checkbox"/> The project complies with the requirements

General	Finding CL B7
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section B.7.1, please specify the Chilean standards, ensuring that calibration frequency will be at least every 3 years (or more frequently).
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The calibration frequency will be at least every 3 years.

General	Finding CL B7
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The mention to Chilean standards was removed, as it is not a grid connected project so standards for grid connected electricity do not apply. For all parameters the calibration frequency has been determined as according to provider's specification but at least every 3 years. In order to avoid confusion during the verification it shall be determined that always the shorter interval shall be valid (e.g. in case the provider's specifications is more than 3 years, the calibration shall be within 3 years or in case the provider's specification is below three years this specification shall be applicable rather than the 3 years). Revision is necessary.</p> <p><b>CL remains open.</b></p>
<b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The following comment was included for all parameters: in case the provider's specification is more than 3 years, the calibration will be within 3 years or in case the provider's specification is below three years this specification will be applicable rather than the 3 years</p>
<b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The mention to Chilean standards was removed, as it is not a grid connected project so standards for grid connected electricity do not apply and calibration frequency in the revised PDD will be performed considering the lowest time between the manufacturer's specification but at least every 3 years.</p> <p><b>CL is closed.</b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<p> <input type="checkbox"/> To be checked during the first periodic verification  <input type="checkbox"/> Appropriate action was taken  <input checked="" type="checkbox"/> Project documentation was corrected correspondingly  <input type="checkbox"/> Additional action should be taken  <input checked="" type="checkbox"/> The project complies with the requirements         </p>

General	Finding CL B8
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section B.5, Investment Analysis, the average natural gas price assumed for the investment analysis is fixed over the 21 years of the project lifetime. It shall be clarified whether this approach is appropriate looking at the price development in the past 10 years (or whatever time period seems appropriate). In case there was an increase of the gas price the same annual rate of growth shall be assumed for the calculation in order to stay conservative.</p>



General	Finding CL B8
<p><b>Corrective Action #1</b></p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>To be conservative beside the natural gas price sensibility analysis (+10%) an annual rate of 2.1% was considered.</p> <p>The natural gas annual rate was conservative calculated considering the methanol price annual variation rate between the methanol price median for years 2005 and 2010. The source of this value is: Methanex Monthly Average Regional Posted Contract Price History, <a href="http://www.methanex.com/products/documents/MxAvgPrice_Aug302010.pdf">http://www.methanex.com/products/documents/MxAvgPrice_Aug302010.pdf</a>. (document attached to this TR findings)</p> <p>A spreadsheet named "Methanol price, annual rate" is attached to this TR findings, the spreadsheet contains the detailed source, data and analysis.</p> <p>Is important to note that Methanex has long-term natural gas supply contracts for its production facilities in Chile, and these natural gas supply contracts include base and variable price components and the variable price component is adjusted by formulas related to methanol prices, therefore is conservative to consider the variation of Methanol prices. Source: Methanex Annual report 2009, page 72, <a href="http://www.methanex.com/investor/documents/2010/Annual%20Report_09.pdf">http://www.methanex.com/investor/documents/2010/Annual%20Report_09.pdf</a> (document attached to this TR findings)</p> <p>The annual rate was included in the PDD in section B.5 (table B.4) and the Project IRR (table B.5) and sensibility analysis IRRs (table B.7) were modified. Also the PDD spreadsheet was modified considering these values.</p>
<p><b>DOE Assessment #1</b></p> <p><i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The natural gas price applied in the financial assessment was revised considering an annual growth tax that was determined based on the monthly values of Methanol price published in Methanex website. Moreover, the PP provides sufficient information to confirm that the natural gas price is directly indexed to the Methanol price variation.</p> <p><b>CL closed</b></p>
<p><b>Conclusion</b></p> <p><i>Tick the appropriate checkbox</i></p>	<p> <input type="checkbox"/> To be checked during the first periodic verification  <input type="checkbox"/> Appropriate action was taken  <input checked="" type="checkbox"/> Project documentation was corrected correspondingly  <input type="checkbox"/> Additional action should be taken  <input type="checkbox"/> The project complies with the requirements         </p>

General	Finding CL C1		
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR

General	Finding CL C1
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section C.1.1, please revise project starting date to be consistent with the purchase order of the wind generator equipments (2009/12/02).
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	In section C.1.1 the project starting date was corrected to 02/12/2009
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The starting date was revised and it is now according to the evidenced purchase order of the wind generators equipments. <b><u>CL is closed.</u></b>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CL C2
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In section C.2.1.1, the date of beginning of crediting period identified was 01/10/2010, however the table of ER calculation given of PDD sections B.6.4 and A.4.3 starts on 2011. Please, correction is necessary.
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The date of beginning of crediting period was corrected to 01/11/2010 in section C.2.1.1, and in tables of ER calculation in sections B.6.4 and A.4.3.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The starting date was revised and all relevant sections of the PDD were revised according to the new defined starting date. <b><u>CL is closed.</u></b>
<b>DOE Note introduced on 2011-01-06 as response to point raised in the Completeness Check by UNFCCC CDM team</b>	The date above (01/11/2010) was realistic at the time of the DOE Assessment #1. As there were 3 rounds of assessment the date became unrealistic and in the later version of PDD submitted for registration the reported date was 01/01/2011 which was realistic at the time of request for registration. As the PP was aware of this issue they changed the date independently, so the DOE was not forced to open a new corrective action. The date 01/01/2011 remains in the revised PDD version 6 which is submitted along with this Validation Report in response to the clarifications raised by CDM team.



General	Finding CL C2
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

General	Finding CL E1
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>In section E, please include a statement about the compliance of the local stakeholder consultation with the rules of the CONAMA (DNA).</p>
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>The CONAMA rules do not include a local stakeholder consultation when a Declaration of Environmental Impact (DIA for its Spanish acronym) is presented. Methanex presented a Declaration of Environmental Impact for “Cabo Negro Wind Farm Project, phase 1” and therefore does not need a local stakeholder consultation. (See the following link: <a href="http://www.conama.cl/rm/568/article-27638.html#h2_4">http://www.conama.cl/rm/568/article-27638.html#h2_4</a>)</p> <p>It must be note that “Cabo Negro wind farm project, phase 1” already has Resolution of Environmental Qualifications (RCA for its Spanish acronym) showing that the environmental evaluation was successfully complete.</p>
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>According to CONAMA rules a local stakeholder consultation does not need to be performed if a Declaration of Environmental Impact is presented. The presented project activity presented a Declaration of Environmental Impact, however to give more transparency to the project activity Methanex performed also a local stakeholder consultation as stated is section E of the PDD and evidenced during on-site visiting.</p> <p><b>CL is closed.</b></p>
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> Project documentation was corrected correspondingly <input type="checkbox"/> Additional action should be taken <input checked="" type="checkbox"/> The project complies with the requirements

## 5 VALIDATION ASSESSMENT SUMMARY

### 5.1 General Description of the Project Activity

#### 5.1.1 Participation

##### LOA

In accordance with the CDM M&P at the stage of validation a Party involved may or may not have provided its approval at the time of making the PDD public. The approval of the parties involved is required at the time of requesting registration.

The LoA from the DNA of the host party Chile has been issued on 22/07/2010. It has been provided in Spanish language together with a translation in English. The DOE confirms the correctness of the translation including the project name which is consistent and overall correct.

The DNA of Chile (Comisión Nacional del Medio Ambiente) is listed on UNFCCC website and the LoA confirms that Chile has ratified the Kyoto protocol. Further the LoA confirms the voluntary participation of the PP in this project activity and that the project contributes to sustainable development of the host country.

##### Project Participants

The only party involved in the project activity is **Chile** (Host Party).

The only project participant is **Methanex Chile S.A.**

All information provided in section A.3, Annex 1 of the PDD and the MOC are consistent.

#### 5.1.2 Contribution to Sustainable Development

As the project activity is the pioneer (the nearest eolic park in Chile are 900 Km far away from the project boundary) in its region – XII<sup>th</sup> Chilean region) and there are only 4 installed eolic parks in the host country, it is expected that its successfully implementation will incentive other local companies to adopt the same example. Moreover, with the project activity the local energy source generation that is mainly based on fossil fuels will be diversified and it is expected the around 50 jobs will be created during construction and it represents an investment of over 5 million USD in the region.

Additionally, the Chilean National Energy Balance was checked and it could be confirmed that there are very few wind based electricity generation in the host country and that this is the first of its kind in the XII region (Magallanes). Moreover, this information could be cross-checked by interviewing local people and authorities.

The national confirmation to the sustainable development will only be confirmed with the LoA issuance by CONAMA, which will only be issued based on the final revision number of this Validation Report.

### **5.1.3 PDD editorial Aspects**

The CDM PDD completing Guide form version 3 was applied. The PDD has in general been filled in accordance with the PDD guidelines. Nevertheless several editorial changes were discussed with the PP in order to improve the PDD.

### **5.1.4 Technology to be employed.**

The description of the project in the PDD is complete and accurate. The project activity involves the construction of an eolic park to supply electricity energy to Methanex facilities that is currently generated by fossil fuel based system (natural gas). The electricity produced will be used for the internal consumption (grid disconnected). The technology employed is environmentally safe and sound and will contribute to climate change mitigation.

The wind turbines to be installed are manufactured by the worldwide sector leader Danish company Vestas, which has several successfully implemented equipments around the globe.

Additionally, the project uses a technology which is not the common practice in the host country and the new technology installed will result in an environmentally sustainable solution which is pioneer in the region (XII – Magallanes) and also first of its kind in terms of captive wind power plant for internal consumption in Chile.

### **5.1.5 Small Scale Projects**

The project qualifies as a small scale CDM project as the installed capacity of the eolic park to be installed (2.55MW) does not exceed the limit of 15MW. There is not a project activity registered or an application for register with the same PPs in the host country.

## **5.2 Project Baseline, Additionality and Monitoring Plan**

### **5.2.1 Application of the Methodology**

The project activity applies the approved methodology AMS I.A. At the time of publishing the PDD for public comments as well as at time of submitting the request for registration, version 13 (EB42) of the applied methodology was valid and applicable. All applicability conditions are met, as described in section B.2 of the PDD, version 2. The project is in line with all requirements and stipulations mentioned in all sections of the applied meth (see also check list question B.1.4 below in the Annex).

The project activity comprehends wind energy generation to be internally used by an individual user, in this case Methanex facilities. The wind turbines will replace some of the existing onsite fossil-fuel fired generation. Methanex facilities are not connected to the regional or national grid, their electricity supplied by from a captive fossil fuel based power generation system, so it complies with applicability condition 1 of AMS I.A. Paragraphs (a) and (b) are not applicable. (a) refers to a group of users supplied by a mini-grid and (b) only refers to energy based lightning systems. The only renewable electricity generation units that will serve Methanex will be the wind turbines of the project activity. The total capacity of these renewable electricity generation units is 2.55MW. Thus, the sum of installed capacity of all renewable energy generators will be 2.55MW, well below the limit of 15MW.

The methodology provides 3 options (without any priority order) for baseline calculations. Options 1 and 2 are considered not adequate for project type and context and would not yield conservative emission reduction calculations. Option 3 (the trend adjusted projection of historical fuel consumption in situations where an existing technology is replaced) is appropriate for the project type and context because the baseline calculation is based on **energy generated by wind technology which (partially) replaces energy generated by fossil fuel generation system**, which is based on **historical fuel consumption efficiency** (3 years average) and it is **trend adjusted** by means of ex-post monitoring the fuel consumption efficiency of the baseline fossil fuel generation system, which ensures conservativeness as in case of the ex-post calculated efficiency of the baseline fossil fuel system is higher than the ex-ante calculated figure, according to provisions in PDD (section B.6.1, below equation B.6) , the higher value (most conservative) will be considered in the baseline emission calculations. In addition, no equations are given in the meth for option 3 and hence the PP introduced equation approach which is mathematically sound and will, in the assessment of the validation team, lead to conservative emission reduction calculations.

The project activity is not expected to result in significant emissions, related both to project and leakage, other than those listed in the methodology. See also section B.1 of the protocol below.

### 5.2.2 Project Boundary

The project boundaries (geographic and also related to GHG sources and gases) are correctly given in PDD. It is defined in section B.3 of the PDD that the spatial extent of the project boundary includes the physical site of wind generation unit and the equipments (in Methanex plant) used to produce electricity. Moreover, all sources and GHGs required by AMS I.A. are included in the table in section B.3 of the PDD.

### 5.2.3 Baseline Identification

The baseline is determined according to the applicable methodology and does not require alternative baseline consideration. Section B.4 of the PDD provides an exact transcript of the baseline defined by AMS I.A. According to the methodology the baseline scenario is the fuel consumption of the technology in use or that would have been used in the absence of the project activity to generate the same quantity of energy.

### 5.2.4 Calculation of GHG Emission Reductions

According AMS I.A, the baseline emissions can be calculated according to 3 Options. However, for the project activity, Options 1 or 2 would not be applicable, so the project developer calculates the baseline emission using Option 3 (page 3 of AMS I.A):

Option 3 – *“the baseline can be a trend-adjusted projection of historic fuel consumption”.*

Moreover, as the methodology does not provide specific equations to calculate the fuel consumption displaced by the project activity, the PP determines the displaced fuel consumption through the calculation of the fuel consumption efficiency and thus additional equations are necessary to determine the baseline fuel consumption efficiency and CL B2 was raised to include such equations in the PDD.

According to Option 3 of AMS I.A, as described above, the baseline is the *trend-adjusted projection of historic fuel consumption*.

In the Draft PDD submitted for Global Stakeholder Consultation, the fuel consumption efficiency was fixed ex-ante using 3 years historical data. In order to comply with methodology requirement (*trend-adjusted*) and, importantly, to ensure a conservative calculation of BE, the validation team raised CAR B3 to include also (in addition to the ex-ante fixed fuel consumption efficiency) the ex-post monitoring of the operational parameters and re-calculation of fuel consumption efficiency in order to compare with the ex-ante value, so that the most conservative value (highest) is always used to calculate BE.

In addition, the ex-post value is assumed to be a very conservative one, since the baseline energy generation system consists of several electricity generation units which are all connected to a electricity ring and it can be assumed that the energy produced by the wind farm will displace the least efficient units and thus the ex-post calculated fuel efficiency will be higher (more conservative) than the actual efficiency of the system would be in the absence of the project activity.

Additionally, the same reasoning applies in case during the crediting period an energy unit is replaced by a more efficient one or the least efficient unit(s) is removed from the system, as explained in CAR B3.

The current energy generation system considered for the fuel efficiency calculation, as correctly described in section A.4.2, page 7 of PDD, consists of:

- 3 medium pressure steam turbines (GST-701, 3GST-701 and X-07002)
- 1 natural gas turbine (113-J)
- 1 cogeneration unit -natural gas (GST-703 and X-614)
- 3 medium steam boilers -natural gas (102-U, 106-U and X-611)

For a clear overview of the system above please refer to diagram in page 9, section A.4.2 of PDD and Tables A2 and A3 of the same section. The corresponding monitoring equipment TAGs for each parameter used in the ex-calculation of FCE (and ex-post monitoring) are described in detail tables of section B.7.1.

All equipments were inspected and were in good operational conditions.

These operating units are connected to a common medium steam header and produce always more steam than the volume required for electricity energy generation, as there are many other (process plant) users for the medium pressure steam. Therefore, not the whole consumption of natural gas in the boilers (and in the steam stage of the cogeneration unit) to produce steam has to be considered, otherwise the calculated efficiency of the electricity generation system would be (artificially) much lower and the resulting BE calculation would not be conservative.

Thus, the fuel consumption efficiency of the system is determined considering (in case of the steam turbines) the efficiency rate (steam consumed/electricity produced) and the efficiency rate (natural gas/steam generated of the boilers) so that only the portion of steam actually used for electricity generation in the steam turbines is considered, resulting in a conservative figure for fuel consumption efficiency.

According to the real situation evidenced on site and to the technical expertise of the validation team the equations provided in PDD are deemed appropriate and will yield a conservative calculation of emission reductions.

The weighted average calculation of the fuel consumption efficiency of the captive energy generation system of Methanex is clearly described in equation B 6 of PDD. Additionally, the fuel consumption efficiency per year is calculated as the annual net total energy generation divided by the total natural gas consumption in the corresponding year as shown in equation B7 of PDD. The net total electricity generation corresponds to the sum of the electricity generation units of the plant (refer to equation B8 of PDD). The total natural gas consumption in the year is calculated as the sum of direct (natural gas turbine) and indirect (steam turbines) in this period as described in equation B 9. The direct consume of natural gas is easily measured by the natural gas turbines direct consumption of the fuel (equation B10) and the indirect one is measured as the specific natural gas consumption by boilers, which is calculated as the total natural gas consumption of all boilers divided by the total steam generation of the same boilers (as given in equation B 12), multiplied by the total amount of steam consumed in all steam turbines (equation B11).

Please refer to section B.5 of Annex 1 below for more detailed assessment.

The verification of data used for the ex-ante estimation of FCE was done by cross checking data in excel sheet against the Process Information System (PI) Data Base



of Methanex Plant for natural gas consumption, steam generation and electricity generation according to the specific tags of monitoring equipment identified during site inspection of all energy generation systems as clearly indicated both in excel sheet, tab FCE Data`, and in Section B.7.1 of PDD. For the NCV of natural gas the values in excel sheet were cross-checked against the Delivery Certificates issued by supplier ENAP, as indicated both in excel and in section B.7.1 of PDD. As clearly indicated in excel sheet, tab `FCE Data`, inconsistent values (i.e. negative or extremely unlikely values) were not considered in the calculation of FCE to yield a conservative and credible value.

Regarding the higher efficiency of steam boiler 102U when compared to other boilers (see excel sheet SSC PDD Cabo Negro Wind farm project v4, tab `FCE`, cells M9 and N9), it was calculated based on Methanex raw data (see same file, tab `FCE Data`, cells AE740 to AF1105), in the same fashion that for other generating units. Such raw data was cross-checked during site visit against Methanex data base.

For boiler 102U the raw data figures present several values of steam generation which have no corresponding natural gas consumption. For such cases the PP decided to take a conservative approach and consider such steam figures in the efficiency calculation (with a zero value of associated natural gas consumption), which result in a higher efficiency, which leads, in its turn, to lower baseline emissions for the project and hence lower ERs. As the approach results in conservative ERs for the project, it was accepted by the validation team.

Please also note that it was requested in CAR B3 to include ex-post monitoring of the operational parameters (i.e. natural gas consumptions, steam generation, steam consumption, electricity generation and natural gas NCV) and ex-post calculation of baseline efficiency, and inclusion in QA/QC procedures that in case ex-post calculated value for fuel consumption efficiency is higher than the fixed ex-ante figure it shall be used for the calculation of baseline emissions.

The rationale for that is that in case any of the generating units is replaced (for more modern and efficient one) or in case the least efficient ones are removed during the crediting unit, fixed ex-ante fuel consumption efficiency for the entire crediting period would not be conservative. Therefore, by monitoring and calculating ex-post the fuel consumption efficiency and using it in case it is higher than the ex-ante figure ensures a conservative calculation of baseline emissions.

## **5.2.5 Additionality Determination**

### **Consideration of CDM in decision making (if project start before validation)**

The project starting (2009/12/02) date was determined based on the date of the contract for purchase of the equipment (Vestas) signature with the supplier and therefore the date is in line with the CDM glossary of terms. The vice president (Roger Neumann Medina) and the finance director (Pablo Vera) of Methanex Chile S.A. have signed the contract.

The project starting date is after 2<sup>nd</sup> August 2008. Therefore, it was sent formal notification of the intention to proceed with the project implementation both for the

local DNA and UNFCCC. During on site visit it was provided the proof of receipt of the letter sent to the local DNA and the UNFCCC website was consulted confirming the formal communication to this organization. The intention to seek CDM status was correctly informed to UNFCCC and the local DNA. Therefore the previous consideration of CDM is deemed serious. Continuous action was ensured because the contract with the DOE was signed in the same month when DNA and UNFCCC were notified (Sept 2009) and GSP started only four month later in Jan 2010.

### **Application of methodology / methodological tools**

The additionality was justified in section B.5 of the PDD in accordance with the requirements derived from AMS I.A using the "Attachment A to Appendix B" of the "Simplified Modalities and Procedures for Small-Scale CDM Project Activities". The investment barrier clearly shows that the project is not economic attractive when compared with the continuation of Methanex current practice (use of natural gas as fuel for energy generation). Additionally, it was provided information on the prevailing practice barrier (the project is the first of its kind in the region and the first of its kind for captive wind power plant in Chile).

### **Alternatives**

Not applicable as the baseline is given by the methodology and a benchmark approach was used, not an investment comparison analysis.

### **Barrier analysis**

The barrier analysis is addressed in detail in Table A-4, Annex 4 below. The barriers given in the PDD (investment and prevailing practice) are considered decisive by the validation team.

### **Investment barrier**

It is demonstrated by the investment barrier analysis that the project scenario is not the most attractive alternative without benefits from CER sales. The latest version of the Guidance on the Assessment of Investment Analysis (EB51 Annex 58) was applied in the assessment and the calculation approach is correct. A benchmark analysis was used for the financial analysis, which is deemed correct in the project context. All parameters are assessed to be plausible and were cross-checked with documental evidence or publicly available sources, as described in detail in section B.4 of Annex 1 and also Table A-3, Annex 3 below.

Additionally, a sensitivity analysis (varying plus or minus 10%) of the parameters natural gas cost, total investment and plant load factor was realized. All parameters that relevantly impact the cash flow analysis (natural gas cost, total investment and plant load factor) were included in the sensitivity analysis and even with 10% variation the IRR goes up, at maximum value, to 6.4%, which is still significantly below the benchmark (14.9%). The benchmark would only be crossed in case the



price for natural gas and PLF increase over 156% or in case the investment cost would be reduced below 63%. These variations are significantly above the EB recommendation of varying plus or minus 10%, as per EB51 Annex 58. Additionally, please find below an assessment regarding the likelihood of occurrence of significant variation on the parameter mentioned above:

- The increase of the PLF over 156% is highly unlikely as the PLF was already chosen conservative with 48% instead of 41% (second opinion).
- The increase of the gas price over 156% is also unlikely as an annual rate of growth by 2.1% based on the Methanol price has already been considered over the 21 year project lifetime.
- The investment costs have already been proved<sup>/FD/</sup> as evidenced during on-site visiting and supporting documents sent to the validation team. Therefore, a decrease in costs below 63% is not possible anymore.

The PP prepared in the course of this request for review a separate break even sensitivity analysis sheet where the variation and brake even point can clearly be replicated. The validation team concluded the correctness and roughness of the sensitivity analysis.

Please refer section B.4 of Annex 1 and also Table A-3, Annex 3 below for a more detailed assessment.

In the course of this request for review the PP changed the investment parameter to the latest source that was available before investment decision was taken. This source is from July 2008<sup>/FD/</sup>, while the investment decision was taken in December 2009 (Contract with Vestas 12/2009<sup>/SD/</sup>). Initially the PP applied investment data in the PDD from January 2010, which were timely closer to the investment decision and more conservative. The changes have only been made due to this request for review to show the existence of investment data before the time of investment decision and to be overall consistent. The resulting new IRR and benchmark shows that the project was financially not attractive and still is not attractive at time of investment decision.

### Prevailing Practice

The geographical region considered for the analysis is the XII Chilean region of Magallanes, which is deemed appropriate as it is a very isolated region disconnected from roads from the rest of the country.

The National Commissioning Energy website was consulted and could be checked there are only three wind farms under activity in Chile. Additionally, it was evidenced that in the XII<sup>th</sup> region of Chile the common practice for electricity energy generation is based on natural gas use and that the project activity is the first eolic farm in the

region. It is also important to note that this project activity is the first of its kind in the country for captive wind based electricity energy.

There are some other wind project activities in the pipeline for CDM validation but all of them propose electricity generation connected to the grid.

### **Common practice analysis**

Not applicable as it is a small scale project. The prevailing practice is, however, described in Prevailing Practice Barrier above.

### **Summary**

As described in the PDD and assessed in detail in the Annexes below, the additionality demonstration is based on the barriers analysis, which include the investment and prevailing practices barriers. The financial analysis shows that the project activity is not the most attractive alternative as its IRR is lower than the identified benchmark and it requires a significantly high investment, which would not be necessary as the current generation system has enough capacity to meet the demand of the industrial facility (Methanex plant). Moreover the prevailing practice is also a strong barrier to the project activity as the project is the first of its kind in the region and the first of its kind in terms of captive wind power plant for industrial use in Chile.

### **5.2.6 Monitoring Methodology**

The monitoring plan in the PDD is in compliance with the applied monitoring methodology AMS I.A. and it is assessed by the validation team as adequate and feasible. For details see section B.6 of the Annex below.

### **5.2.7 Monitoring Plan**

The monitoring plan in the PDD covers all parameters which have to be monitored w.r.t. the project boundary in line with monitoring methodology AMS I.A. and the monitoring arrangements are assessed by the validation team as adequate and feasible. For details see section B.6 of the Annex below.

In response to clarification requested by CDM team regarding separate and direct monitoring of  $C_{NG\ BOILER, I, y}$  and  $C_{NG\ DIRECT\ j, y}$  regarding the cogeneration plant the validation team clarifies that as explicit in equations B9 to B12 at page 23 of the PDD, the natural gas consumption of the cogeneration boiler ( $C_{NG\ BOILER, I, y}$ ) is measured by existing monitoring equipment TAG 3-FI-9101 and the natural gas consumption of the cogeneration turbine ( $C_{NG\ DIRECT\ j, y}$ ) is measured by existing monitoring equipment TAG FI-9401. Hence separate and precise measurement for both sources is already available and implemented.

## **5.2.8 Project Management Planning**

The project management planning is appropriate for the purpose of the project monitoring, as described in section B.7.2 of the PDD.

## **5.2.9 Crediting Period**

The choice of the seven year (renewable) crediting period was unambiguously given in the PDD and corresponding calculation spreadsheet. The crediting period starting date is 2011/01/01 or the day after registration, whichever occur later, and that is deemed appropriate.

## **5.2.10 Environmental Impacts**

The project documentation contains an analysis of environmental impacts. No significant adverse impacts are envisaged for the project. According to the Chilean General Law of Environment (Law 19300), projects below 3 MW do not need to be included in the national system of environmental impact assessment (they only need to and thus do not need to present neither an EIA nor a DIA (simplified Declaration of Environmental Impact). However, the project participant decided to voluntarily present a DIA to the environmental authority (CONAMA). The DIA was reviewed and formally approved by CONAMA.

## **5.2.11 Comments by Local Stakeholders**

Stakeholders were invited for a meeting through an open public announcement in the local newspaper. Relevant stakeholders were invited also by letter. Several relevant stakeholders attended the meeting (on 2009/09/04), as described in section E.1 of the PDD. The meeting was prior to the publication of PDD for global stakeholder consultation (2010/01/09). Attendees received printed material with a description of the project, followed by a presentation according to the agenda in section E.1. After the presentation there was a discussion round where comments were invited and doubts were clarified. No negative comments were received.

Furthermore, the project does not result in significant negative environment impacts and rather positive environmental and social impacts are expected.

## 6 VALIDATION OPINION

Methanex Chile S.A. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Cabo Negro Wind Farm Project, Phase 1" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board.

The project activity consists in the construction of an eolic park for electricity energy generation in Methanex facilities that will replace the fossil fuel based (natural gas) electricity energy generation only for internal consume (grid disconnected).

A risk based approach has been followed to perform this validation. In the course of the pre-validation, 07 Corrective Action Requests (CARs) and 11 Clarification Requests (CRs) were raised and successfully closed. In addition no FAR has been issued.

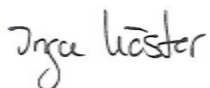
The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (Chile) and all relevant UNFCCC requirements for CDM.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 85,428 tCO<sub>2</sub>e are most likely to be achieved within the 07 years (renewable) crediting period (1<sup>st</sup> November 2010 to 31<sup>th</sup> October 2017).

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation. The request for registration will not be submitted before the Letter of Approval (LoA) is issued by the Chilean DNA.

Hannover, 2011-05-05



Inga Köster

TÜV NORD JI/CDM CP

Verification Team Leader

Essen, 2011-05-05



Rainer Winter

TÜV NORD JI/CDM CP

Final Approval

## 7 REFERENCES

**Table 7-1:** Documents provided by the project participant

Reference	Document
/DIA/	<ul style="list-style-type: none"> <li>- Declaration of Environmental Impact</li> <li>- Resolution of Environmental Qualification No. 259/2009, issued on 2009/11/05 by CONAMA.</li> </ul>
/FD/	<p><u>Financial data:</u></p> <ul style="list-style-type: none"> <li>- 19606 Law: "Establish incentives for the economic development of Aysen and Magallanes Region and the province of Palena", <a href="http://www.bcn.cl/leyes/134828">http://www.bcn.cl/leyes/134828</a></li> <li>- 20.320 Law: "Extending the incentives for economic development of regions of Aysen and Magallanes and the province of Palena and amending the law of free zones contained in the DFL No. 2, 2001 of the Ministry of Finance", <a href="http://www.diariooficial.cl/actualidad/20ulle/20320.html">http://www.diariooficial.cl/actualidad/20ulle/20320.html</a></li> <li>- News papers "El Magallanes" 14/05/09 and "Prensa Austral" 06/05/09 (natural gas Price)</li> <li>- Preventive Maintenance contract signed between Methanex S.A. and Vestas Chile Turbinas Eólicas Limitada dated 2009/12/3 (total investment evidence)</li> <li>- Supply only Agreement between Methanex Chile S.A. and Vestas Chile Turbinas Eólicas Limitada signed on 2<sup>nd</sup> December of 2009 (total investment evidence)</li> <li>- Methanex Purchase Order No. PN-3000001 dated 2010/01/06 (total investment evidence)</li> <li>- Methanex Request for Quotation no. 3000017 dated 2010/01/11 (total investment evidence)</li> <li>- Economic offer from SALFA SA to Methanex dated 2010/01/08 (total investment evidence)</li> <li>- Methanex Service Order No. PN-2001158 dated 2010/01/05 (total investment evidence)</li> <li>- Quotation from BURGER GRÚAS y Transportes Especiales dated 2010/01/22 (total investment evidence)</li> <li>- Quotation from Shaffner dated 2010/01/11 (total investment evidence)</li> <li>- Methanex Purchase Order No. PL-2901023 dated 2009/11/17 (total investment evidence)</li> <li>- Purchase order CONSTRUCTORA A.OJEDA M. Y CIA LTDA (total investment evidence)</li> <li>- File named "Benchmark Sources.zip" provided by the PP including information on the sources used for the benchmark determination.</li> <li>- EcofysValgesta S.A Report, dated July 2008.</li> </ul>
/LoA/	Letter of Approval DNA Chile 22/07/2010
/MoC/	Modalities of Communication

Reference	Document
<b>/MP/</b>	ISO 9001:2001 QMS Certificate No. SAC 0703104 applicable to the Production of Methanol issued by Lloyd's Register Quality Assurance dated 20 <sup>th</sup> July of 2009 and with validity until 13 <sup>th</sup> November of 2010
<b>/MSI/</b>	Internal Methanex System Information evidenced during on-site visiting. Methanex internal data record system cross check during site visiting (i.e. natural gas consume and NCV records) through Methanex system information were taken.
<b>/PC/</b>	Evidences of prior consideration of CDM: <ul style="list-style-type: none"> <li>- Proof of receipt of Methanex letter sent to Constance Nalegach (Chilean DNA) dated 2009/09/22</li> <li>- UNFCCC notification of the intention to proceed with the CDM project activity implementation dated 2009/09/23</li> <li>- Validation contract signed between TÜV NORD Cert GmbH and Methanex Chile S.A. dated 2009/10/16.</li> </ul>
<b>/PDD/</b>	Version 1 - Draft Project Design Document named "Cabo Negro Wind Farm Project, Phase 1" hosted from 2010/01/09 to 2010/02/07. Version 7 - Final Project Design Document named "Cabo Negro Wind Farm Project, Phase 1" dated 2011/05/02.
<b>/SD/</b>	Starting date evidences: <ul style="list-style-type: none"> <li>- Supply only Agreement between Methanex Chile S.A. and Vestas Chile Turbinas Eólicas Limitada signed on 2<sup>nd</sup> December of 2009</li> <li>- Project Implementation Chronogram</li> </ul>
<b>/SHC/</b>	Stakeholder consultation process evidences: <ul style="list-style-type: none"> <li>- Attendance list of public audience realized on 4<sup>th</sup> September of 2009 in the Auditorio de la Universidad de Magallanes</li> <li>- Open public invitation in local newspaper</li> <li>- Pictures of meeting</li> <li>- Videotape of meeting</li> </ul>
<b>/TD/</b>	Technical data: <ul style="list-style-type: none"> <li>- Executive Abstract</li> <li>- General specification Vestas V52-850 kW 50/60Hz</li> <li>- Life Cycle Assessment – Vestas (evidence of operational lifetime)</li> <li>- "Micro-modulation of Cabo Negro Sector and Eolic Park Implementation" realized by Universidad de Magallanes on December 2008 (evidence of plant load factor)</li> <li>- "Preliminary Analyses on eolic exploration in Punta Arenas" realized by EcofysVelgest S.A. on July 2008 (evidence of plant load factor)</li> </ul>
<b>/XLS/</b>	CERs calculation and financial analysis spreadsheet. Benchmark determination spreadsheet.

**Table 7-2:** Background investigation and assessment documents

Reference	Document
/19300/	General Chilean Law of Environment #19300
/AMS I.A/	AMS I.A: Electricity generation by the user version 13, EB 42
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GCP/	UNFCCC: Guidelines for completing CDM-PDD
/GT/	UNFCCC: CDM Glossary of Terms
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPPC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/PDD-T/	Project Design Document Form (CDM SSC PDD) - Version 03.1
/VVM/	Validation and Verification Manual - Version 1.1, EB 51/Annex 3



**Table 7-3: Websites used**

Reference	Link	Organisation
/cne/	www.cne.cl	CNE (National Energy Commissioning)
/damodaran/	www.stern.nyu.edu/~adamodar/	Damodaran Online
/dna/	www.conama.cl	CONAMA (DNA of Chile)
/ipcc/	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	IPCC publications
/methanex/	www.methanex.com	Methanex website
/seia/	www.e-seia.cl	SEIA (National System of Environmental Impact Assessment)
/sii/	www.sii.cl	Chilean Service of Income Tax
/unfccc/	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	UNFCCC
/vestas/	www.vestas.com	Vestas (wind turbine-generators manufacturer)

**Table 7-4: List of interviewed persons**

Reference	Mol <sup>1</sup>		Name	Organisation / Function
/IM01/	V E	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Carolina Urmeneta L.	Poch Ambiental S.A. / Project Engineering
/IM01/	V E	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Ignacio Rebolledo A.	Poch Ambiental S.A. / Project Manager
/IM02/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Jorge Soto	Methanex Chile S.A. / Project Manager
/IM02/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nelson Saldivia Subiabre	Methanex Chile S.A. / Technical Chief Engineer
/IM02/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nestor Fuentes V.	Methanex Chile S.A. / Project Manager Assessor
/IM02/	V	<input type="checkbox"/> Mr.	Waldo Quinteros Cáceres	Methanex Chile S.A. / Electric

Reference	Mol <sup>1</sup>		Name	Organisation / Function
		<input checked="" type="checkbox"/> Ms		Technician

<sup>1)</sup> Means of Interview: (Telephone, E-Mail, Visit)

# ANNEX

- A1:** Validation Protocol
- A2:** Assessment of Baseline Identification
- A3:** Assessment of Financial Parameters
- A4:** Assessment of Barrier analysis
- A5:** Outcome of the GSCP
- A6:** Appointment certificates of the team members

## ANNEX 1: VALIDATION PROTOCOL

**Table A-1: Requirements Checklist**

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<b>A. General Description of Project Activity</b>				
<b>A.1. Approval</b> <i>The written approval of the parties involved is a mandatory requirement</i>				
A.1.1. Has the project provided written approvals of all parties involved? (EB 44 Annex 3 §44) <i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.</i> <i>Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA</i>	<i>Description:</i> Written approvals have not been provided yet.  <i>Justification of evidences:</i> see below  <i>Conclusion:</i> <b>(CAR A1)</b> Please provide the LoA for the project with the exact project title as in the PDD (identical to section A.1) and precise name of the project participants (identical to section A.3 of the PDD).		CAR A1	OK
A.1.2. Are the approvals issued from organisations listed as DNAs on the UNFCCC CDM website?	<i>Description:</i> See comment in A.1.1 above.		CAR A1	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
(EB 44 Annex 3 §§ 44, 47, 48, 49 (b), 49 (c), 53) <i>Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted the LoA for validation.</i>	<i>Justification of evidences:</i>  <i>Conclusion:</i>			
A.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol? (EB 44 Annex 3 §45, (a))	<i>Description:</i> See comment in A.1.1 above.  <i>Justification of evidences:</i>  <i>Conclusion:</i>		CAR A1	OK
A.1.4. Do the written approvals confirm that the participation is voluntary?  (EB 44 Annex 3 §45, (b))	<i>Description:</i> See comment in A.1.1 above.  <i>Justification of evidences:</i>  <i>Conclusion:</i>		CAR A1	OK
A.1.5. Does the written approval from the host country confirm that the project contributes to the sustainable development in the country? (EB 44 Annex 3 §45, (c))	<i>Description:</i> See comment in A.1.1 above.  <i>Justification of evidences:</i>  <i>Conclusion:</i>		CAR A1	OK
A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for	<i>Description:</i> See comment in A.1.1 above.		CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
registration or an additional specification of the project activity, e.g. PDD version number? (EB 44 Annex 3 §§45 (d), 50)	<i>Justification of evidences:</i>  <i>Conclusion:</i>		A1	
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6? (EB 44 Annex 3 §46)	<i>Description:</i> See comment in A.1.1 above.  <i>Justification of evidences:</i>  <i>Conclusion:</i>		<del>CAR</del> A1	OK
A.1.8. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PDD internally consistent to each other? (EB 44 Annex 3, § 51)	<i>Description:</i> Yes, they are internally consistent.  <i>Justification of evidences:</i> PDD version 1.  <i>Conclusion:</i> Project complies with requirements.	/PDD/	OK	
A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? (EB 44 Annex 3, § 51) <i>Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.</i>  <i>Describe the means of validation employed to draw this conclusion.</i>	<i>Description:</i> See comment in A.1.1 above.  <i>Justification of evidences:</i> PDD version 1.  <i>Conclusion:</i>		<del>CAR</del> A1	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
A.1.10. Are any other project participants approved but not listed in the PDD? (EB 44 Annex 3, § 52)	<i>Description:</i> See comment in A.1.1 above.  <i>Justification of evidences:</i>  <i>Conclusion:</i>		<del>CAR</del> A1	OK
<b>A.2. Contribution to Sustainable Development</b>  <i>The project's contribution to sustainable development is assessed.</i>				
A.2.1. Has the host country confirmed that the project assists it in achieving sustainable development? (EB 44 Annex 3, §§ 123 – 125) <i>Contain a statement confirming whether the letter of approval by the DNA of the host party confirmed the contribution of the project to the sustainable development of the Host Party.</i>	<i>Description:</i> See comment in A.1.1 above.  <i>Justification of evidences:</i>  <i>Conclusion:</i>		<del>CAR</del> A1	OK
A.2.2. Will the project create other environmental or social benefits than GHG emission reductions? (EB 44 Annex 3, §§ 123 – 125) <i>Describe the other positive aspects not related to GHG emission reduction on the environment.</i>	<i>Description:</i> As the project activity is the pioneer (the nearest eolic park in Chile are 900 Km far away from the project boundary) in its region – XII <sup>th</sup> Chilean region) and there are only 4 installed eolic parks in the host country, it is expected that its successfully implementation will incentive other local companies to adopt the same example. Moreover, with the project activity the local energy source generation that is mainly based on fossil fuels will be	/PDD/ /CNE/ /IM01/	OK	



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>diversified and it is expected the around 50 jobs will be created during construction and it represents an investment of over 5 million USD in the region.</p> <p><i>Justification of evidences:</i> The Chilean National Energy Balance could be checked and it could be confirmed that there are very few wind based electricity generation in the host country and that in the local region of the project activity this is the first of its kind. Moreover, this information could be cross-checked by interviewing local people and authorities.</p> <p><i>Conclusion:</i> The project results in social and environmental benefits beyond emission reductions.</p>			
<b>A.3. PDD editorial aspects</b>  <i>The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i>				
A.3.1. Has the latest version of the PDD form been applied? (EB 44 Annex 3, § 55)	<p><i>Description:</i> Yes, the latest version of the CDM-PDD template (version 03) has been applied. No deviations thereof have been observed.</p> <p><i>Justification of evidences:</i> The UNFCCC website has been checked</p> <p><i>Conclusion:</i> The project complies with the requirements</p>	/PDD/  /unfccc/	OK	

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (EB 44 Annex 3, §§ 56, 57)</p>	<p><i>Description:</i> In general, the PDD has been dully filled. Minor editorial issues were discussed with representatives of the PP during site visit.</p> <p><i>Justification of evidences:</i> The PDD has been checked in detail and compared against the latest guidance, especially /GCP/.</p> <p><i>Conclusion:</i> The PDD was dully filled.</p>	<p>/PDD/ /unfccc/ /GCP/</p>	<p>OK</p>	
<p><b>A.4. Technology to be employed</b></p> <p><i>Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i></p>				
<p>A.4.1. Does the PDD contain a clear, accurate and complete project description? (EB 44 Annex 3, §§ 58, 59)</p> <p><i>The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.</i></p> <p><i>Pl. consider esp. chapters A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.</i></p> <p><i>Describe the process undertaken to validate the accuracy</i></p>	<p><i>Description:</i> No, not all project details as it could be evidenced during on-site visiting were detailed in PDD section A.4.2.</p> <p><i>Justification of evidences:</i> The PDD and technical data of the plant's equipments were reviewed in detail. Interviews were performed with the PPs and a plant tour was realized during on-site visiting.</p> <p><i>Conclusion:</i> <b>(CL A1)</b> In section A.4.2, please provide more detailed information including all boilers, steam and gas turbines and generators indicating also the corresponding plants (1, 2, 3 and 4). In addition, please include information on the distance between the</p>	<p>/PDD/ /TD/ /IM01/</p>	<p><del>CL A1</del></p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p><i>and completeness of the project description.</i></p> <p><i>Contain the DOE's opinion on the accuracy and completeness of the project description.</i></p>	<p>wind farm and the Methanex plant.</p> <p>Furthermore, please include a flow diagram showing all energy generation units including boilers, turbines and generators and both the steam header and the electrical ring of the plant.</p>			
<p>A.4.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description</p>	<p><i>Description:</i> Yes, in general the project description is in accordance with the real situation. Therefore, please see comment in A.4.1 above.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	<p>/PDD/ /TD/ /IM01/</p>	<p>GLA1</p>	<p>OK</p>
<p>A.4.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation? EB 44 Annex 3, §§63, 64)</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p>Not applicable to the project activity which consists of the implementation of a new eolic park for internal electricity energy supply for the Methanex plant.</p>		<p>NA</p>	
<p>A.4.4. Does the project design engineering reflect current good practices?</p> <p><i>Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.</i></p>	<p><i>Description:</i> Yes, the wind turbines to be installed are manufactured by the worldwide leader company in the sector which has several successfully implemented equipments around the globe.</p> <p><i>Justification of evidences:</i> Technical data of the plant's equipments were reviewed and the website of the manufacture could be checked. Vestas is a well known and reputed supplier of Wind Technology.</p>	<p>/PDD/ /TD/ /vestas/</p>	<p>OK</p>	

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p><i>Conclusion:</i> The project design reflects current good practices and the equipments are safe and sound.</p>			
<p>A.4.5. 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?</p> <p><i>Describe the process undertaken to assess the state of the art technology.</i></p>	<p><i>Description:</i> The project utilizes state of the art technology (see comment above). Wind energy generation in the host country is not the most common practice. The project activity is the pioneer (XII<sup>th</sup> Chilean region) and there are only 4 installed eolic parks in the host country.</p> <p><i>Justification of evidences:</i> The Chilean National Energy Balance could be checked and it could be confirmed that there are very few wind based electricity generation in the host country and that in the Magallanes region of the project activity this is the first of its kind. Moreover the equipment's technical data and the website of the manufacture could be checked.</p> <p><i>Conclusion:</i> The project uses a new technology which is not the common practice in the host country and the new technology installed will result in an environmentally sustainable technology which is not the common practice in the host country (fossil fuel based electricity generation).</p>	<p>/PDD/ /CNE/ /TD/ /vestas/</p>	<p>OK</p>	
<p>A.4.6. Does the project make provisions for meeting training and maintenance needs?</p> <p><i>Describe the process undertaken to assess the maintenance and training needs.</i></p>	<p><i>Description:</i> Methanex has firmed a contract with the equipment's supplier covering two years of maintenance needs and has an already implemented and certified QMS and the training and maintenance needs will be embedded in the company's QMS controls.</p>	<p>/PDD/ /IM01/ /FD/</p>	<p>OK</p>	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p><i>Justification of evidences:</i> Preventive Maintenance contract signed between Methanex and Vestas and ISO 9001:2001 certificate were reviewed and representatives of the PP were interviewed.</p> <p><i>Conclusion:</i> The project maintenance and training needs are foreseen.</p>	/MP/		
<b>A.5. Small scale project activity</b> <i>It is assessed whether the project qualifies as small-scale CDM project activity</i>				
A.5.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II? (EB 44 Annex 3, § 134 (a))	<p><i>Description:</i> Yes, the project qualifies as a small scale CDM as the installed capacity of the eolic park to be installed (2.55MW) does not exceed the limit of 15MW.</p> <p><i>Justification of evidences:</i> Contract signed between Methanex and Vestas.</p> <p><i>Conclusion:</i> The project activity can be classified as a small scale CDM project activity.</p>	/PDD/ /SD/	OK	
A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein? (EB 44 Annex 3, § 134 (b))	<p><i>Description:</i> Yes, the project applies the latest version of the approved methodology AMS I.A. version 13 (valid from 2008/10/10 onwards).</p> <p><i>Justification of evidences:</i> The UNFCCC website was checked.</p>	/PDD/ /unfccc/	OK	

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>Check, if applicable the expiry dates of the applied methodology. Further, take into consideration the general guidance to the methodologies<sup>2</sup>, which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.</i>	<i>Conclusion:</i> The project applies the last version of the approved methodology.			
<p>A.5.3. Is the small scale project activity not a debundled component of a larger project activity? (EB 44 Annex 3, § 134 (c))</p> <p><i>Describe the steps taken to validate this issue. Pl refer to the Compendium of guidance on debundling (EB 36, Annex 27).</i></p>	<p><i>Description:</i> There is not a project activity registered or an application for register with the same PPs in the host country.</p> <p><i>Justification of evidences:</i> The UNFCCC website was checked.</p> <p><i>Conclusion:</i> The project activity is not a dubundled component of a large project activity.</p>	<p>/PDD/ /unfccc/</p>	<p>OK</p>	
<p>A.5.4. Is an assessment of the environmental impacts of the proposed SSC CDM project activity required by the host Party?</p> <p>(EB 44 Annex 3, § 134 (d))</p>	<p><i>Description:</i> No, according to Chilean Law of Environment (Law 19300), projects below 3MW of installed capacity do not need to present an assessment of the environmental impacts. They only need to obtain sectoral permits.</p> <p><i>Justification of evidences:</i> Chilean Law 19300 and Contract signed between Methanex and Vestas.</p> <p><i>Conclusion:</i> No Environmental Impact Studies are required for this project activity according the host country laws and regulations. Please refer to section D of this checklist for detailed assessment on Environmental Impacts.</p>	<p>/PDD/ /19300/</p>	<p>OK</p>	

<sup>2</sup> <http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<b>B. Project Baseline, Additionality and Monitoring Plan</b>				
<b>B.1. Application of the Methodology</b>				
<p>B.1.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof? (EB 44 Annex 3, §65) <i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> Yes, the project activity applies the approved methodology AMS I.A. At the time of publishing the PDD for public comments, version 13 (EB42) of the applied methodology was valid and applicable.</p> <p><i>Justification of evidences:</i> To ensure that the applied methodology is approved by the executive board and the PP has chosen the latest version, the methodologies section of UNFCCC CDM website (<a href="http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html">http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html</a>) was visited.</p> <p><i>Conclusion:</i> The project applies an approved and applicable version of a CDM methodology</p>	<p>/PDD/ /AMS I.A./ /unfccc/</p>	OK	
<p>B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website? (EB 44 Annex 3, §§65, 69) <i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> The methodology applied by the PPs follows stipulations of the version available on UNFCCC website.</p> <p><i>Justification of evidences:</i> The PDD was reviewed against the stipulations of the methodology.</p>	<p>/PDD/ /AMS I.A./ /unfccc/</p>	OK	



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	<i>Conclusion:</i> The stipulations of the published version were followed.			
<p>B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled?</p> <p>(EB 44 Annex 3, §§66 (a), 66 (b), 68, 70, 75) <i>Describe for each applicability criterion listed in the selected approved methodology the steps taken to assess the information contained in the PDD.</i></p>	<p><i>Description:</i> The following conditions from AMS I.A. make the proposed project activity applicable as a CDM under the methodological framework mentioned:</p> <ul style="list-style-type: none"> <li> <b>This category comprises renewable energy generation units that supply individual households or users or groups of households or users with electricity.</b>            The project activity comprehends wind energy generation to be internally used at the project site. The energy generation will not be exported to the grid and the user does not have a grid connection.         </li> <li> <b>Combined heat and power (cogeneration) systems are not eligible under this category.</b>            The project activity will only produce electricity energy based on wind energy. Heat generation will not occur.         </li> <li> <b>If the unit added has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15MW for a small-scale CDM project activity applies only to the renewable component. If the unit added co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15MW.</b> </li> </ul>	/PDD/ /AMS I.A./ /TD/ /IM01/	GAR B1	OK

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	<p>The project activity applies only renewable sources of electricity generation (wind energy) and will not exceed 15MW of installed capacity (2.55MW of total installed capacity).</p> <ul style="list-style-type: none"> <li> <b>Project activities that seek to retrofit or modify an existing facility for renewable energy generation are included in this category. To qualify as a small-scale project, the total output of the modified or retrofitted unit shall not exceed the limit of 15 MW.</b> </li> </ul> <p>The project activity consists of the installation of a wind energy generation unit at the projec site without the necesssity to retrofit or modify any existing equipments.</p> <ul style="list-style-type: none"> <li> <b>In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.</b> </li> </ul> <p>In the project activity a new renewable power generation wind based unit will be installed with a total installed capacity of 2.55MW. The wind energy generation unit is not phisically connected to the grid and the electricity generated will be only internally used.</p> <p><i>Justification of evidences:</i> In order to assess the applicability of the</p>			

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	<p>project, the PDD was reviewed and the applicability determination of the PDD was counterchecked against the criteria given in the applicability section of the methodology. The information in the PDD was checked during on-site visit to proof that such information is valid and reflects the reality of the project.</p> <p><i>Conclusion:</i> The justification of the compliance of the project with applicability criteria of the methodology is described in section B.1 of the PDD. However, CAR B1 was raised. See below.</p> <p><b>(CAR B1)</b> The “Tool to determine the baseline efficiency of the thermal electric energy generation system” is not applicable as the baseline system includes also cogeneration unit. Therefore, please remove it from relevant sections of PDD.</p>			
<p>B.1.4. Is the project in accordance to every other stipulation or requirement mentioned in all sections of the methodology?</p> <p>(EB 44 Annex 3, §70)</p> <p><i>Describe the steps taken to check whether the proposed project activity meets <u>all the other possible stipulations and/or limitations</u> mentioned in all sections of the approved methodology selected.</i></p>	<p><i>Description:</i> The project activity applies the approved methodology AMS I.A. and option 3 for the energy baseline determination was applied.</p> <p><i>Justification of evidences:</i> The PDD was reviewed and all methodological requirements were checked.</p> <p><i>Conclusion:</i> All further stipulations and limitations were attended and no deviation could be found to this project activity.</p>	<p>/PDD/ /AMS I.A./ /IM01/</p>	<p>OK</p>	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<b>B.2. Project Boundaries</b> <i>Project Boundaries are the limits and borders defining the GHG emission reduction project</i>				
<p>B.2.1. Are the project's spatial boundaries (geographical) clearly defined?</p> <p>(EB 44 Annex 3, §§67 (a), 77 - 79)</p> <p><i>Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	<p><i>Description:</i> It is defined in section B.3 of the PDD that the spatial extent of the project boundary includes the physical site of wind generation unit and the equipments (Methanex plant) that uses the produced electricity.</p> <p><i>Justification of evidences:</i> according to AMS I.A. the project boundary is the physical site of the renewable energy generation and the equipments that use the electricity produced.</p> <p><i>Conclusion:</i> The project boundary was correctly determined.</p>	/PDD/ /AMS I.A./	OK	
<p>B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology?</p> <p>(EB 44 Annex 3, §§67 (a), 77 - 79)</p> <p><i>Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	<p><i>Description:</i> Yes, all sources and GHGs required by AMS I.A. are included in the table in section B.3 of the PDD.</p> <p><i>Justification of evidences:</i> The only source indicated by the methodology is fossil fuel usage in the baseline.</p> <p><i>Conclusion:</i> The sources are in compliance with the applied methodology as well as with the real situation. This could be validated by reviewing the PDD and AMS I.A. during the on-site visit.</p>	/PDD/ /AMS I.A./	OK	
<p>B.2.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and</p>	<p><i>Description:</i> Not applicable, since the methodology does not allow such choices.</p>	/PDD/ /AMS I.A./	NA	

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justified? (EB 44 Annex 3, §§67 (a), 77 - 79)  <i>Confirm if the justification provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.</i>	<i>Justification of evidences:</i>  <i>Conclusion:</i>			
<b>B.3. Baseline Identification</b>  <i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i>				
B.3.1. What possible baseline scenarios have been considered? (EB 44 Annex 3, §§ 67 (b), 82) <i>Fill in all alternatives in table A-2.</i>	<i>Description:</i> The baseline is determined according to the applicable methodology and does not require alternative baseline consideration.  <i>Justification of evidences:</i> Section B.4 of the PDD provides an exact transcript of the baseline defined by AMS I.A.  <i>Conclusion:</i> The baseline is given by the methodology and it is not necessary to identify alternatives.	/PDD/ /AMS I.A./	OK	
B.3.2. Is the list of alternatives complete? (EB 44 Annex 3, §§67 (b), 82)  <i>Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration</i>	<input type="checkbox"/> All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been omitted. <input type="checkbox"/> The following alternative scenarios/options have been omitted.	/PDD/ /AMS I.A./	NA	

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	Corresponding CAR(s)/CL(s) has /have been issued  Not applicable, as the baseline is given by the methodology.			
<b>B.3.3. What has been identified as the baseline scenario? (EB 44 Annex 3, §§80, 81, 85)</b> <i>Describe the chosen BL scenario, taking into consideration the technology that would be employed and / or the activities that would take place in the absence of the proposed CDM project activity.</i>	<i>Description:</i> According to the methodology the baseline scenario is the fuel consumption of the technology in use or that would have been used in the absence of the project activity to generate the same quantity of energy.  <i>Justification of evidences:</i> The baseline scenario is given by the AMS I.A. and it is clearly described in section B.4 of the PDD.  <i>Conclusion:</i> The identified baseline is in line with the baseline methodology.	/PDD/ /AMS I.A./	OK	
<b>B.3.4. Has the baseline scenario been determined according to the methodology? (EB 44 Annex 3, §§81, 86 (e))</b> <i>Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.</i>	For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2. <input checked="" type="checkbox"/> The determination has been carried out as per the procedure contained in the applied methodology. <input type="checkbox"/> The following CARs / CLs have been identified with respect to the selection of the baseline scenario:  There is no other alternative for the baseline determination according to the applied methodology.	/PDD/ /AMS I.A./	OK	
<b>B.3.5. Has any plausible alternative scenario been excluded? (EB 44 Annex 3, § 82)</b> <i>Describe how it is validated that no plausible alternative scenario has been excluded.</i>	For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2. <input type="checkbox"/> No plausible baseline scenario has been excluded. <input type="checkbox"/> The following plausible baseline scenarios have been excluded though no adequate justification has been provided for elimination. The following CARs / CLs have been issued:  Not applicable, as the baseline is given by the methodology.	/PDD/ /AMS I.A./	NA	

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<p>B.3.6. Is the identified baseline scenario reasonable and has the baseline scenario been determined using conservative assumptions where possible, including relevant references and sources?</p> <p>(EB 44 Annex 3, §§ 83 - 86(a)-(c), 88, 91) <i>Describe whether the choice of the identified baseline scenario is reasonable by validating the <u>key assumptions, calculations and rationales</u> used in the PDD. Describe whether these are listed, relevant and <u>conservatively interpreted</u> in the PDD.</i></p>	<p><input type="checkbox"/> The baseline scenario is reasonable and has been determined using conservative assumptions where possible. Please refer to comments in table A-2 and sections B.3.2 to B.3.5 above.</p> <p><input type="checkbox"/> The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative</p> <p>Not applicable, as the baseline is given by the methodology.</p>	<p>/PDD/ /AMS I.A./</p>	<p>NA</p>	
<p>B.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations? (EB 44 Annex 3, §§ 84, 86(d)) <i>Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD in accordance with the guidance by the Board. Pl. consider the guidance EB 22 annex 3 (regarding E+ and E- policies).</i></p>	<p><i>Description:</i> Not applicable, as the baseline is given by the methodology</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	<p>/PDD/ /AMS I.A./</p>	<p>NA</p>	
<p>B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?</p> <p>(EB 44 Annex 3, § 91(a)) <i>Describe whether the documents and sources referred to in</i></p>	<p><i>Description:</i> Not applicable, as the baseline is given by the methodology</p> <p><i>Justification of evidences:</i></p>	<p>/PDD/ /AMS I.A./</p>	<p>NA</p>	



Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>the PDD are correctly quoted and clearly referenced.</i>	<i>Conclusion:</i>			
<b>B.4. Additionality Determination</b> <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i>				
<b>B.4.1. Methodology</b>				
<p>B.4.1.1. Does the PDD describe how the project is additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools?</p> <p>(EB 44 Annex 3, §§67 (d), 93)</p> <p><i>Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.</i></p>	<p><i>Description:</i> Yes, in section B.5 of the PDD it is described the additionality determination. The investment barrier clearly shows that the project is not economic attractive when compared with the continuation of Methanex current practice (use of natural gas as fuel for energy generation). Additionally, it was provided information on the prevailing practice barrier (the project is the first of its kind in the region and the first of its kind for captive wind power plant in Chile) and technological barrier. However, CARs B4 and B5 and CL B1 were raised.</p> <p><i>Justification of evidences:</i> It was provided during site visit the financial spreadsheet with all supporting documents referenced. Additionally, the CNE website could be checked confirming the information given on the prevailing practice barrier.</p> <p><i>Conclusion:</i> The PDD describes how the project is additional and</p>	<p>/PDD/ /cne/ /FD/ /TA/</p>	<p>CAR B4 CAR B5 CL-B1 CAR B6</p>	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<p>the demonstration of additionality follows the guidance of EB 51 Annex 58. However, CAR B6 was raised regarding the technological barrier.</p> <p><b>(CAR B6)</b> In section B.5, <u>Technological Barrier</u>, please revise the argumentation, in line with EB 50 Annex 13, or exclude it altogether.</p>			
<b>B.4.2. Consideration of CDM before project start</b>				
<p>B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms?</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> Yes, the project starting date was determined based on date the contract for purchase of the equipment (Vestas) signed with the supplier. However, CL C1 was raised.</p> <p><i>Justification of evidences:</i> Contract with wind technology supplier (Vestas).</p> <p><i>Conclusion:</i> The project starting date given in the PDD is slightly different than the contract evidenced during on-site visit. Therefore CL C1 was raised.</p> <p><b>(CL C1)</b> In section C.1.1, please revise project starting date to be consistent with the purchase order of the wind generator equipments (2009/12/02).</p>	<p>/PDD/ /GT/ /SD/</p>	CL C1	OK
<p>B.4.2.2. In case the project start date is on or after 2<sup>nd</sup> August 2008 has the PP informed the DNA and UNFCCC about the intension to seek CDM status? (EB 44 Annex 3, §99)</p>	<p><i>Description:</i> The project starting date is after 2<sup>nd</sup> August 2008. Therefore, it was sent formal notification of the intention to proceed with the project implementation both for the local DNA and UNFCCC.</p> <p><i>Justification of evidences:</i> During on site visit it was provided the proof of receipt of the letter sent to the local DNA and the UNFCCC</p>	<p>/IM01/ /PC/ /unfccc/</p>	OK	

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	<p>website was consulted confirming the formal communication to this organization.</p> <p><i>Conclusion:</i> The intention to seek CDM status was correctly informed to UNFCCC and the local DNA.</p>			
<p>B.4.2.3. In case the project start date is before commencing of validation and 2<sup>nd</sup> August 2008, was the incentive from the CDM seriously considered and are details given in the PDD? (EB 44 Annex 3, §§ 98, 100)</p> <p><i>Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	<p><i>Description:</i> Not applicable as the project starting date (2009/12/02) is after the assignment of the validation process (2009/10/16).</p> <p><i>Justification of evidences:</i> Equipment's contract and Validation contract signed.</p> <p><i>Conclusion:</i> Requirement not applicable.</p>	<p>/PDD/ /PC/</p>	<p>NA</p>	
<p>B.4.2.4. How and when was the decision to proceed with the project taken?</p> <p><i>Describe the steps taken to validate the starting date.</i></p>	<p><i>Description:</i> The decision to proceed with the project was formalized with the signature of the equipments supply contract dated 2009/12/02.</p> <p><i>Justification of evidences:</i> contract signed with Vestas was reviewed.</p> <p><i>Conclusion:</i> The project starting date was correctly determined based on the first real action to proceed (first major investment commitment) with the project implementation. Therefore, CL C1 was raised. Please see comment in B.4.2.1.</p>	<p>/PDD/ /SD/ /GCP/</p>	<p><del>CL C1</del></p>	<p>OK</p>
<p>B.4.2.5. Is the project start date consistent with the</p>	<p><i>Description:</i> The project starting date described in PDD is different from the evidences provided during on site visit.</p>	<p>/PDD/</p>	<p><del>CL C1</del></p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<p>available evidences? (EB 44 Annex 3, §100)</p> <p><i>Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	<p><i>Justification of evidences:</i> The PDD was reviewed and compared with the Equipment's supplier contract signed.</p> <p><i>Conclusion:</i> The project starting date needs to be revised. Therefore, CL C1 was raised. Please see comment in B.4.2.1.</p>	<p>/GCP/ /SD/</p>		
<p>B.4.2.6. Was the decision to proceed with the project taken by a person which has the authority to do so?</p> <p><i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> Yes, the vice president (Roger Neumann Medina) and the finance director (Pablo Vera) of Methanex Chile S.A. have signed the equipment's supplier contract (starting date).</p> <p><i>Justification of evidences:</i> Contract signed with the equipment's supplier.</p> <p><i>Conclusion:</i> The decision was taken by people with authority to do so.</p>	<p>/PDD/ /SD/</p>	OK	
<p>B.4.2.7. How was the CDM involved in the decision making process? (EB 44 Annex 3, § 100)</p> <p><i>Describe why CDM was a decisive factor in the decision making process.</i></p>	<p><i>Description:</i> A contract between the DOE and Methanex was signed on 2009/10/16 for the validation of the CDM project activity, which shows that the CDM was considered before the investment decision (equipment's supply contract signed with Vestas). Additionally, the PDD was sent for Global Stakeholder Comments in UNFCCC website on 2010/01/09, just after the project starting date.</p> <p><i>Justification of evidences:</i> The referred contracts were provided to the validation team and reviewed in detail. Evidences are listed in</p>	<p>/PDD/ /PC/ /SD/ /unfccc/</p>	<p>CAR B4 CL-B4</p>	OK

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	<p>table 7-1. The UNFCCC confirmation of the PDD publication was evidenced.</p> <p><i>Conclusion:</i> According to the evidences provided it is clear that the CDM was considered prior to the investment decision. As the project generates no financial benefits for Methanex, once the continuation of the current practice in the plant (use of natural gas as fuel for electricity energy generation) is financially more viable, it can be assumed that CDM was a decisive factor in the decision making process. However, CL B1 was raised requesting more detailed information regarding the project milestones for transparency of the validation process and CAR B4 related to the identified benchmark.</p> <p><b>(CL B1)</b> In section B.5 of PDD, for further transparency please include a timeline of milestones events of project implementation to show early and continuous consideration of CDM precisely referenced and supported by evidences.</p>			
<p>B.4.2.8. Do the evidences provided doubtlessly prove that continuous and real actions were taken in order to secure the CDM status?</p> <p>(EB 44 Annex 3, § 100; EB 49 Annex 22, §7)</p>	<p><i>Description:</i> Yes, the contract with the DOE was signed before the starting date (2009-12-02 -investment decision). The PDD was submitted for Global stakeholder publication soon after that (2010-01-09).</p> <p><i>Justification of evidences:</i> The referred contracts was provided to the validation team and reviewed in detail. Evidences are listed in table 7-1.</p> <p><i>Conclusion:</i> The evidences provided prove that real actions were</p>	<p>/PDD/ /PC/ /SD/ /unfccc/</p>	<p>OK</p>	

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	taken to secure the CDM status prior to the investment decision.			
B.4.2.9. Is the gap of documented evidences to secure the CDM status less than 3 years and are the evidences relevant for substantiating the action taken, credible, reliable and complete?  (EB 49 Annex 22, §8)	<p><i>Description:</i> Yes, the gaps of documents are less than 1 year.</p> <p><i>Justification of evidences:</i> The referred contracts was provided to the validation team and reviewed in detail. Evidences listed in table 7-1.</p> <p><i>Conclusion:</i> There is no gap of documents with more than 1 year.</p>	/PDD/ /PC/ /SD/	OK	
B.4.2.10. Can the CDM involvement in the decision assessed as serious? <i>Describe whether or not the project would have been undertaken without the incentive of the CDM.</i>	<p><i>Description:</i> According to the evidences provided it is clear that the CDM was considered prior to the investment decision. However, as the project generates financial benefits for Methanex, the final assessment will only be completed after the resolution of the relevant findings (CARs B4 and B5 and CL B1) regarding the investment analysis and the benchmark.</p> <p><i>Justification of evidences:</i> See evidences listed under /PC/ in table 7-1 above.</p> <p><i>Conclusion:</i> Early consideration is proved. However, a conclusion on the additionality of the project can only be reached after all relevant findings are closed.</p>	/PDD/ /PC/ /IM01/	CAR B4 CAR B5 CL-B1	OK
<b>B.4.3. Identification of alternatives Step 1</b> (in case of SSC projects pl. Skip steps 1 and 2)				
B.4.3.1. Does the list of alternatives contain the	<i>Description:</i> Not applicable as it is a small scale project activity.	/PDD/	NA	

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>status-quo situation, the project not undertaken as a CDM project as well as all other viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?</p> <p>(EB 44 Annex 3, §§ 103 – 105) <i>Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.</i></p>	<p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	<p>/AMS.I.A./</p>		
<p>B.4.3.2. Have all realistic alternatives been identified to the project?</p> <p>(EB 44 Annex 3, §§ 103 – 105) <i>Describe whether the list of alternatives is complete. Describe how it is validated that the alternatives are realistic.</i></p>	<p><i>Description:</i> Not applicable as it is a small scale project activity.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	<p>/PDD/ /AMS.I.A./</p>	<p>NA</p>	
<p>B.4.3.3. Do all identified alternatives comply with enforced legislations?</p> <p>(EB 44 Annex 3, §§ 103 – 105; EB 41 Annex 45 §8) <i>Describe the steps taken to validate this issue. Refer to the legislations.</i></p>	<p><i>Description:</i> Not applicable as it is a small scale project activity.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	<p>/PDD/ /AMS.I.A./</p>	<p>NA</p>	
<p><b>B.4.4. Investment analysis Step 2</b></p> <p><i>In case the investment analysis as per step 2 is chosen to justify the additionality Annex 2 "Assessment of Financial Parameters" has to be used to provide additional details of the calculation parameters..</i></p>				



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<p>B.4.4.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs?</p> <p>(EB 44 Annex 3, §106)</p>	<p><i>Description:</i> Yes, as the project activity comprehends the installation of a new wind farm other than using the already installed equipments based on natural gas for electricity energy generation, extra investments will be necessary for the project implementation. Moreover, it could be checked that the electricity generation based on natural gas is more attractive than the wind based. Therefore, the project is not economically /financially feasible without carbon revenues.</p> <p><i>Justification of evidences:</i> The initial investments necessary for the eolic park installation could be checked by the contract signed with the equipment's supplier and other service providers. Additionally, the baseline costs for the electricity generation could be checked by evidencing the natural gas price paid by Methanex, fuel consumption efficiency and net calorific value averages over the last recent years at the project plant.</p> <p><i>Conclusion:</i> As the electricity generation cost of the wind park will be less attractive than the continuation of based natural gas electricity generation there are no financial benefits other than CER revenues and as there is a high investment associated with the project activity, it can be assumed that the project is not feasible without the carbon revenues.</p>	<p>/PDD/ /AMS I.A./ /IM01/ /FD/ /XLS/</p>	<p>OK</p>	
<p>B.4.4.2. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)?</p>	<p><i>Description:</i> Yes, a benchmark analysis was correctly chosen for the financial assessment, which is deemed appropriate as the project generates other financial benefits (savings of natural gas) than the sales of CERs, and therefore Option I (Simple Cost) could not be used and Option II is not appropriate because the alternative</p>	<p>/PDD/ /AMS I.A./ /FD/</p>	<p>OK</p>	

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<p>(EB 44 Annex 3, §107) <i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.</i></p>	<p>to the project (continuation of current practice of natural gas based energy generation) requires no investment.</p> <p><i>Justification of evidences:</i> It was revealed during site visit that the natural gas is currently bought from ENAP and that the continuation of the electricity generation based on natural gas would be continued as it not requires additional investments.</p> <p><i>Conclusion:</i> Benchmark Analysis was correctly chosen as a method for the demonstration of additionality.</p>	<p>/XLS/ /IM01/</p>		
<p>B.4.4.3. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation? (EB 44 Annex 3, §108) <i>Describe the steps taken to validate this issue.</i></p>	<p><i>Description:</i> Yes, clear, viewable and unprotected Excel spreadsheet was provided.</p> <p><i>Justification of evidences:</i> Financial spreadsheet was reviewed.</p> <p><i>Conclusion:</i> The financial spreadsheet was available in an unprotected version.</p>	<p>/FD/ /XLS/</p>	<p>OK</p>	
<p>B.4.4.4. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included? (EB 44 Annex 3, §108; EB 41 Annex 45 § 3 – 4)</p>	<p><i>Description:</i> The period of the financial analysis adopted is 21 years and it was based on the technical lifetime of the wind turbines to be installed in the project activity. Nevertheless a fair value of 30% of the initial investment was conservatively included as a cash inflow at the end of the analysis period even though the project investment was fully depreciated in year 21.</p> <p><i>Justification of evidences:</i> Financial spreadsheet and technical data</p>	<p>/PDD/ /TD/ /FD/ /XLS/</p>	<p>OK</p>	

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<i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.</i>	<p>of the equipments was review (i.e. Life Cycle Assessment by Vestas).</p> <p><i>Conclusion:</i> The period of the financial analysis reflects the exact technical lifetime of the equipments to be installed. Therefore, it would not be necessary to include the fair value at the end of the investment analysis.</p>			
<p>B.4.4.5. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice?</p> <p>(EB 44 Annex 3, §108; EB 41 Annex 45 §4)</p> <p><i>State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.</i></p>	<p><i>Description:</i> It was applied a linear depreciation rate over the 21 period year, which is in line with Chilean accounting regulations, so the assets will be fully depreciated at the end of the analysis period, so it would not be necessary to include a residual values after such large period. Please refer to topic B.4.4.4 above.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	<p>/FD/ /XLS/</p>	<p>OK</p>	
<p>B.4.4.6. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation?</p> <p>(EB 44 Annex 3, §108; EB 41 Annex 45 §4)</p>	<p><i>Description:</i> As explained above, the assets will be fully depreciated at the end of the analysis period. Nevertheless, a fair value of 30% of the total investment was conservatively included at the end of the cash flow period. Please refer to topic B.4.4.4 above.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>	<p>/FD/ /XLS/</p>	<p>OK</p>	
<p>B.4.4.7. Are depreciation and other non-cash</p>	<p><i>Description:</i> Yes, the depreciation was included back for the IRR calculation. There are no other non-cash related items.</p>	<p>/PDD/</p>	<p>OK</p>	

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related items added back to net profits for the purpose to calculate the financial indicator?  (EB 44 Annex 3, §108; EB 41 Annex 45 §5)	<i>Justification of evidences:</i> PDD and financial spreadsheet.  <i>Conclusion:</i> The IRR calculation was correctly performed.	/FD/ /XLS/		
B.4.4.8. Is taxation excluded in the investment analysis or is the benchmark intended for post tax comparisons?  (EB 44 Annex 3, §108; EB 41 Annex 45 §5)	<i>Description:</i> Taxation is included in the IRR calculations. The internal benchmark used could not be properly assessed.  <i>Justification of evidences:</i> PDD and financial spreadsheet.  <i>Conclusion:</i> The IRR calculation was correctly performed. However a CAR B4 was raised regarding the correctness of the internal benchmark identified. <b>(CAR B4)</b> In section B.5, in <u>Investment Barrier</u> , it is necessary to demonstrate the use of the internal benchmark (13%) for similar projects with similar risks developed by Methanex (according to EB51 Annex 58, page 3 paragraph 14). In case that is not possible, please consider the approach to establish a suitable benchmark.	/PDD/ /FD/ /XLS/	CAR B4	OK
B.4.4.9. Were the input values used in the investment analysis valid and applicable at the time of the investment decision?  (EB 44 Annex 3, §§108, 111; EB 41 Annex 45 §6) <i>In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed.</i>	<i>Description:</i> Not all input values were transparently referenced.  <i>Justification of evidences:</i> PDD, financial spreadsheet and reference documents listed in section 7-1.  <i>Conclusion:</i> <b>(CAR B5)</b> In section B.5 of PDD all input data should be valid at the moment of investment decision and the sources shall be precisely referenced (title of document or website link, pages, paragraph,	/PDD/ /FD/ /XLS/	CAR B5	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	etc). Additionally, the financial figures provided in PDD (tables B4 and B5) and financial spreadsheet is inconsistent. Therefore, revision is necessary.			
B.4.4.10. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR?  (EB 44 Annex 3, §108; EB 41 Annex 45 §9)	<p><i>Description:</i> The project IRR calculation does not include financing expenditures as the project's necessary investments will be done only by Methanex with <u>100% equity</u>.</p> <p><i>Justification of evidences:</i> PDD, financial spreadsheets and contracts listed in table 7-1.</p> <p><i>Conclusion:</i> There is any kind of financing necessary for the project implementation.</p>	/PDD/ /FD/ /XLS/	N/A	
B.4.4.11. In case of equity IRR: Is the part of the investment costs, which is financed by equity considered as net cash outflow and is the part financed by debt excluded in net cash outflow?  (EB 44 Annex 3, §108; EB 41 Annex 45 §10)	<p><i>Description:</i> Not applicable as the indicator used is <u>project</u> IRR.</p> <p><i>Justification of evidences:</i> PDD, financial spreadsheets and contracts listed in table 7-1.</p> <p><i>Conclusion:</i> Not applicable.</p>	/PDD/ /FD/ /XLS/	N/A	
B.4.4.12. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?  (EB 44 Annex 3, §§ 108, 110; EB 41 Annex 45 §11)	<p><i>Description:</i> It was chosen an internal benchmark, but it was not possible to perform a transparent validation of the value adopted.</p> <p><i>Justification of evidences:</i> PDD and financial spreadsheets.</p> <p><i>Conclusion:</i> Internal benchmark determination not validated. Therefore, CAR B4 was raised. Please refer to comment in B.4.4.8.</p>	/PDD/ /FD/ /XLS/	CAR B4	OK

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<i>In case risk premiums are applied describe its suitability to reflect the risks associated with the project activity.</i>				
<p>B.4.4.13. Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark?</p> <p>(EB 44 Annex 3, §108; EB 41 Annex 45 §12 – 14) <i>Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.</i></p>	<p><i>Description:</i> Please refer to topic B.4.4.8 above.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>		CAR B4	OK
<p>B.4.4.14. Is it ensured that the project cannot be developed by other developers than the PP?</p> <p>(EB 44 Annex 3, §108; EB 41 Annex 45 §12 – 13)</p>	<p><i>Description:</i> It is a self consumption project for developed only for internal electricity energy consumption.</p> <p><i>Justification of evidences:</i> The PDD was reviewed, interview approach with Methanex personnel and on site visiting observing evidences.</p> <p><i>Conclusion:</i> The project can only be developed by Methanex.</p>	/PDD/ /IM01/	OK	
<p>B.4.4.15. Was the benchmark consistently used in the past for similar projects with similar risks? (EB 44 Annex 3, §108)</p>	<p><i>Description:</i> Please refer to topic B.4.4.8 above.</p> <p><i>Justification of evidences:</i></p> <p><i>Conclusion:</i></p>		CAR B4	OK
<p>B.4.4.16. Does the PDD and related spreadsheets</p>	<p><i>Description:</i> Yes, a sensitivity analysis (varying plus or minus 10%)</p>	/PDD/	OK	

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<p>contain a sensitivity analysis and does the same contain variation of parameters which may vary throughout the project lifetime,</p> <p>(EB 44 Annex 3, §§108, 109 (e); EB 41 Annex 45 §16 – 17)</p> <p><i>Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.</i></p>	<p>of the parameters natural gas cost, total investment and plant load factor were realized.</p> <p><i>Justification of evidences:</i> The PDD and financial spreadsheet was detailed reviewed together with the supporting evidences of the financial input data.</p> <p><i>Conclusion:</i> The sensibility analysis was correctly performed for the most relevant parameters.</p>	<p>/FD/ /XLS/</p>		
<p>B.4.4.17. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation?</p> <p>(EB 44 Annex 3, §108; EB 41 Annex 45 §16)</p>	<p><i>Description:</i> All parameters that relevantly impact the cash flow analysis (natural gas cost, total investment and plant load factor) were included in the sensitivity analysis.</p> <p><i>Justification of evidences:</i> The PDD, the financial spreadsheet and supporting evidences of the financial input data were reviewed in detail.</p> <p><i>Conclusion:</i> All necessary parameters to perform a conservative sensitivity analysis were included in the financial assessment.</p>	<p>/PDD/ /FD/ /XLS/</p>	<p>OK</p>	
<p>B.4.4.18. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter?</p> <p>(EB 44 Annex 3, §108; EB 41 Annex 45 §16)</p> <p><i>Describe whether those parameters are considered in the</i></p>	<p><i>Description:</i> Please refer to topic B.4.4.17 above. Other parameters (i.e. operational cost, taxes, depreciation) included in the cash flow analysis do not impact significantly in the financial assessment.</p> <p><i>Justification of evidences:</i> The PDD and financial spreadsheet was detailed reviewed together with the supporting evidences of the</p>	<p>/PDD/ /FD/ /XLS/</p>	<p>OK</p>	



Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>sensitivity analysis?</i>	financial input data.  <i>Conclusion:</i> No different parameter other than the ones included in the sensitivity analysis was identified as potential material impact on the financial assessment.			
B.4.4.19. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector?  (EB 44 Annex 3, §108; EB 41 Annex 45 §17) <i>Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.</i>	<i>Description:</i> The range of variation adopted in the sensitivity analysis was plus and minus 10%. The plant load factor is not expected to have higher as shown by the wind viability studies performed by two local organizations and combined with the correlation of 10 year data of the local airport wind monitoring information. The natural gas cost was checked during the last three recent years and no significant variation could be detected.  <i>Justification of evidences:</i> The PDD and financial spreadsheet was detailed reviewed together with the supporting evidences of the financial input data. Additionally, the wind viability study was evidenced.  <i>Conclusion:</i> The range adopted in the sensitivity analysis is sufficient to cover the parameters fluctuation over the time.	/PDD/ /FD/ /TD/ /XLS/	N/A	
<b>B.4.5. Barrier analysis Step 3 or SSC additionality assessment</b>				
B.4.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project?  (EB 44 Annex 3, §§ 113, 135) <i>In case of LSC projects those issues cannot be considered as</i>	<i>Description:</i> Yes, the investment barrier gives a clear and direct impact on the financial returns. A detailed description and assessment of the barriers is carried out in Annex 4 below, Table A-4. A detailed assessment of the investment barrier is carried out in Annex 3, Table A-3.	/PDD/ /FD/ /IM01/ /IM02/	OK	

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<i>barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 51, Annex 58.</i>	<p><i>Justification of evidences:</i> A detailed description and assessment of the barriers and evidences is carried out in Annex 4, Table A-4 and Annex 3, Table A-3.</p> <p><i>Conclusion:</i> The financial barrier has a clear and direct impact on the financial returns of the project and it is assessed according to EB51, Annex 58 in section B.4.4 just above and the financial parameters are assessed in detail in Table A-3 of Annex 3 below.</p>	/XLS/		
<p>B.4.5.2. Are the barriers described risk related (e.g technology failure, other performance related risks) or has the unavailability of sources of finance for the project been described and adequately substantiated?</p> <p>(EB 44 Annex 3, §§ 114, 135)</p> <p><i>Are there other barriers or barriers due to prevailing practice existent which would have led to higher emissions?</i></p>	<p><i>Description:</i> The technological barrier as presented in the PDD is risk related. However, CAR B6 was raised. Please see comment below.</p> <p><i>Justification of evidences:</i> See CAR B6.</p> <p><i>Conclusion:</i></p> <p><b>(CAR B6)</b> In section B.5, <u>Technological Barrier</u>, please revise the argumentation, in line with EB 50 Annex 13, or exclude it altogether.</p>	/PDD/ /IM01/ /IM02/	CAR B6	OK
<p>B.4.5.3. How is it justified and evidenced that the barriers given in the PDD are real?</p> <p>(EB 44 Annex 3, § 115 (a))</p>	<p><i>Description:</i> A detailed description and assessment of the barriers is carried out in Annex 4 below, Table A-4. However, CAR B6 was raised. Please see comment just above.</p> <p><i>Justification of evidences:</i> A detailed description and assessment of the barriers is carried out in Annex 4, Table A-4 below.</p>		CAR B4 CAR B5 CAR	OK

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	<i>Conclusion:</i> Some findings have been raised and need to be closed to reach a conclusion.		B6	
B.4.5.4. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives? (EB 44 Annex 3, § 115 (b))	<p><i>Description:</i> See comments above. A detailed description and assessment of the barriers is carried out in Annex 4 below, Table A-4. The baseline is given by the methodology. The alternative to project developer would be not to implement the project and thus the current situation would continue. However some CARs were raised. Please see comment just above.</p> <p><i>Justification of evidences:</i> See Annex 4 below, Table A-4.</p> <p><i>Conclusion:</i> See Annex 4 below, Table A-4.</p>		<del>CAR</del> B4 <del>CAR</del> B5 <del>CAR</del> B6	OK
<b>B.4.6. Common practice analysis Step 4</b> (in case of SSC projects skip this step)				
B.4.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type?  (EB 44 Annex 3, § 118 (a)) <i>Describe the why the project activity is not common practice in a transparent and unambiguous manner.</i>	NA		NA	
B.4.6.2. To what extent similar projects have been undertaken in the relevant region?	NA		NA	

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(EB 44 Annex 3, § 118 (b))				
B.4.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed? (EB 44 Annex 3, § 118 (c))	NA		NA	
<b>B.5. Ex-Ante Calculation of GHG Emission Reductions</b>  <i>It is assessed whether the ex-ante calculations of project emissions, baseline emissions, leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified. Furthermore calculation of emission reductions shall be assessed.</i>				
B.5.1. Are the equations applied correctly according to the applied approved methodology?  (EB 44 Annex 3 §§67 (c), 88, 89, 91) <i>Describe clearly the steps taken to assess whether the methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.</i>	<input type="checkbox"/> The equations applied for calculation are correctly applied according to the approved methodology. <input checked="" type="checkbox"/> The following mistakes have been identified in this context:  <i>Description:</i> For further transparency, CL B2 and B3 were raised. See below.  <i>Justification of evidences:</i> See findings raised below.	/PDD/ /AMS I.A./	<del>CL-B2</del> <del>CL-B3</del>	OK

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	<p><i>Conclusion:</i>  <b>(CL B2)</b> In section B.6.1, please clearly show how the calculation of the fuel consumption efficiency was calculated.  <b>(CL B3)</b> In section B.6.3, according to the guidelines for completing the SSC-PDD, please provide a transparent ex-ante calculation of baseline emissions, applying values to all equations described in B.6.1, in a way that the reader can reproduce the calculation.</p>			
<p>B.5.2. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p>(EB 44 Annex 3 §§ 89, 90)</p> <p><i>Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i></p>	<p><i>Description:</i> According AMS I.A, the baseline can be calculated according to 3 Options. However, for the project activity, Options 1 or 2 would not be applicable, so the project developer calculates the baseline using Option 3 (page 3 of AMS I.A):</p> <p><i>Option 3 – “the baseline can be a trend-adjusted projection of historic fuel consumption”.</i></p> <p>Moreover, as the methodology does not provide specific equations to calculate the fuel consumption displaced by the project activity, the PP determines the displaced fuel consumption through the calculation of the fuel consumption efficiency and thus additional equations are necessary to determine the baseline fuel consumption efficiency and CL B2 was raised to include such equations in the PDD.</p> <p><i>Justification of evidences:</i> Project developer choices reported on the PDD.</p> <p><i>Conclusion:</i> Option 3 of AMS I.A was used to calculate BE. Additional equations were used to calculate the baseline fuel consumption by means of calculating the baseline fuel consumption efficiency. Those additional calculations shall be better described in</p>	<p>/PDD/ /AMS I.A./</p>	<p>CL-B2</p>	<p>OK</p>

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	in the PDD and thus CL B2 was raised. See comment just above.			
<p>B.5.3. Have conservative assumptions been used when calculating the project emissions?</p> <p>(EB 44 Annex 3 §§ 89, 90)</p> <p><i>Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD including references and sources and are conservatively interpreted in the PDD.</i></p>	<p><i>Description:</i> According to Option 3 of AMS I.A, as described above, the baseline is the <i>trend-adjusted projection of historic fuel consumption</i>.</p> <p>In the Draft PDD submitted for Global Stakeholder Consultation, the fuel consumption efficiency is fixed ex-ante using 3 years historical data. In order to comply with methodology requirement (<i>trend-adjusted</i>) and, importantly, to ensure a conservative calculation of BE, the validation team raised CAR B3 to include also (in addition to the ex-ante fixed fuel consumption efficiency) the ex-post monitoring of the operational parameters and re-calculation of fuel consumption efficiency in order to compare with the ex-ante value, so that the most conservative value (highest) is always used to calculate BE.</p> <p>In addition, the ex-post value is assumed to be a very conservative one, since the baseline energy generation system consists of several electricity generation units which are all connected to a electricity ring and it can be assumed that the energy produced by the wind farm will displace the least efficient units and thus the ex-post calculated fuel efficiency will be higher (more conservative) than the actual efficiency of the system would be in the absence of the project activity.</p> <p>Additionally, the same reasoning applies in case during the crediting period an energy unit is replaced by a more efficient one or the least efficient unit(s) is removed from the system, as explained in CAR B3.</p> <p>The current energy generation system considered for the fuel efficiency calculation consists of:</p> <ul style="list-style-type: none"> <li>• 3 medium pressure steam turbines (GST-701, 3GST-701</li> </ul>	<p>/PDD/ /AMS I.A./ /IM01/ /IM02/ /TD/</p>	<p><del>CAR</del> B2 <del>CAR</del> B3</p>	<p>OK</p>

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	<p>and X-07002)</p> <ul style="list-style-type: none"> <li>• 1 natural gas turbine (113-J)</li> <li>• 1 cogeneration unit -natural gas (GST-703 and X-614)</li> <li>• 3 medium steam boilers -natural gas (102-U, 106-U and X-611)</li> </ul> <p>For a clear overview of the system above please refer to diagram in page 9, section A.4.2 of PDD and Tables A2 and A3 of the same section. All equipments were inspected and were in good operational conditions.</p> <p>These operating units are connected to a common medium steam header and produce always more steam than the volume required for electricity energy generation, as there are many other (plant process plant) users for the medium pressure steam. Therefore, <u>not</u> the whole consumption of natural gas in the boilers (and in the steam stage of the cogeneration unit) to produce steam has to be considered, otherwise the calculated efficiency of the electricity generation system would be (artificially) much lower and the resulting BE calculation would not be conservative.</p> <p>Thus, the fuel consumption efficiency of the system is determined considering (in case of the steam turbines) the efficiency rate (steam consumed/electricity produced) and the efficiency rate (natural gas/steam generated of the boilers) so that only the portion of steam actually used for electricity generation in the steam turbines is considered, resulting in a conservative figure for fuel consumption efficiency.</p> <p>The following units were identified but were conservatively not included in the baseline efficiency calculation:</p> <ul style="list-style-type: none"> <li>• There are back-up emergency diesel generators in all plants which are used only in emergency situations. The</li> </ul>			



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	<p>fuel consumption of such generators is conservatively not considered in the fuel efficiency calculation, as they are less efficient equipment.</p> <ul style="list-style-type: none"> <li>• There is also 1 steam turbine which uses <u>only</u> (residual) process steam and thus is not included in the fuel efficiency calculation, as it consumes no fossil fuels (i.e. the process steam is not produced through burning of fossil fuels).</li> <li>• Finally, there is one boiler which produces high steam pressure primarily for other purposes than energy generation, but eventually part of the steam after loss of pressure can be diverted to the medium pressure steam ring and thus be used in electricity energy generation, but this corresponding medium pressure steam is obviously produced in a less efficient way (i.e. there is energy loss in the reduction from high to medium pressure steam) so it is conservative to exclude it from the baseline fuel efficiency calculation.</li> </ul> <p><i>Justification of evidences:</i> In order to fully comprehend the baseline energy generation system, the Methanex plant including the control room was visited and all boilers, turbines and generators were inspected, technical documentation of all relevant equipment was reviewed in detail and operators and engineers were interviewed.</p> <p><i>Conclusion:</i> <b>(CAR B3)</b> Please include ex-post monitoring of the operational parameters (i.e. natural gas consumptions, steam generation, steam consumption, electricity generation and natural gas NCV) and ex-post calculation of baseline efficiency.</p>			

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>For conservative ex-post calculation of ER, please include in the calculation approach in section B.6.1 that in case the ex-post calculated value for fuel consumption efficiency is higher than the fixed ex-ante figure it shall be used for the calculation of baseline emissions.</p> <p>The rationale for that is that in case any of the generating units is replaced (for more modern and efficient one) or in case the least efficient ones are removed during the crediting unit, fixed ex-ante fuel consumption efficiency for the entire crediting period would not be conservative. Therefore, by monitoring and calculating ex-post the fuel consumption efficiency and using it in case it is higher than the ex-ante figure ensures a conservative calculation of baseline emissions.</p>			
<p>B.5.4. Does the implementation of the project activity lead to GHG emissions within the project boundary which are expected to contribute more than 1% of the overall expected average annual emission reductions, which are not addressed by the methodology?</p> <p>(EB 44 Annex 3, §76)</p>	<p><i>Description:</i> No other emission sources than those described in the methodology have been identified.</p> <p><i>Justification of evidences:</i> The PDD was reviewed, the Methanex plant and the project site were inspected during site visit and Methanex operational and managerial personnel were interviewed.</p> <p><i>Conclusion:</i> It can be reasonably assumed that there are no GHG emissions within the project boundary which are expected to contribute to more than 1% of the overall expected average annual emission reductions.</p>	<p>/PDD/ /AMS I.A./ /IM01/ /IM02/</p>	<p>OK</p>	
<p>B.5.5. Are all data and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a</p>	<p><i>Description:</i> CAR B2 was raised.</p>	<p>/PDD/ /AMS I.A/</p>	<p><del>CAR</del> <b>B2</b></p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
conservative estimation of emission reductions? <i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.</i>	<i>Justification of evidences:</i> See CAR B2 below.  <i>Conclusion:</i> <b>(CAR B2)</b> The historic data used to calculate the ex-ante baseline emissions should include the most recent year (i.e. 2009) for:  (5) Amount of electricity produced (6) Amount of fuel consumption (7) Net calorific value Steam generation	/TD/		
B.5.6. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable? <i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of the project activity</i>	<input type="checkbox"/> All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and conservative. <input checked="" type="checkbox"/> The following mistakes have been identified in this context:  CAR B2 was raised. Please refer to comment above.	/PDD/ /AMS I.A./	CAR B2	OK
B.5.7. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. <i>Describe the steps taken to validate this issue.</i>	<i>Description:</i> Several CARs and CLs have been raised and have to be closed out before forming an opinion.  <i>Justification of evidences:</i> see comment above.  <i>Conclusion:</i> please refer to the CARs and CLs raised.		<del>Not</del> yet OK	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<b>B.6. Monitoring of Emission Reductions</b>  <i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i>				
<b>B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan?</b>  (EB 44 Annex 3, §§ 67 (e), 120, 121 (a) , 122) <i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i>  <i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.</i>  <i>In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.</i>	<i>Description:</i> All monitoring parameters required by AMS I.A are contained in the monitoring plan. However, in order to achieve in the future conservative calculation of ERs, considering that in the project activity an energy generation system composed of several units exists, the monitoring of additional parameters was required by the validation team, thus CAR B5 was raised. See below  <i>Justification of evidences:</i> The PDD and technical data of the project was reviewed in detail and interviews were performed with operational and managerial staff of Methanex.  <i>Conclusion:</i>  <b>(CL B5)</b> In section B.7.1 please include parameters described in CAR B2 (amount of electricity produced, amount of fuel consumption, net calorific value and steam generation).	/PDD/ /AMS I.A./ /IM01/ /IM02/ /TD/	<del>CL-B5</del>	OK
<b>B.6.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the applied methodology?</b>  (EB 44 Annex 3, § 121 (a), 121 (b), 122) <i>Assess whether the provided information for all parameters</i>	<i>Description:</i> CL B4 and CL B6 were raised. See below  <i>Justification of evidences:</i> the PDD was reviewed in detail against the requirements of AMS I.A. and considering the context of the project.	/PDD/ /AMS I.A/ /GCP/	<del>CL-B4</del> <del>CL-B6</del>	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><i>w.r.t.</i></p> <ul style="list-style-type: none"> <li>a) <i>Label (name of the data / parameter)</i></li> <li>b) <i>data unit</i></li> <li>c) <i>description</i></li> <li>d) <i>source of data</i></li> <li>e) <i>measurement equipment / method / procedure</i></li> <li>f) <i>monitoring frequency</i></li> <li>g) <i>QA/QC procedures</i></li> </ul> <p><i>are appropriately described and in compliance with the requirements of the methodology..</i></p>	<p><i>Conclusion:</i></p> <p>(CL B4) In section B.7.2, please include a wiring diagram showing the exact location of the meters to be installed in order to monitor electricity generation. In addition, please include brief statement about data substitution procedures and about maintenance measures to be taken.</p> <p>(CL B6) In section B.7.1 please:</p> <p>(3) Include more detailed information with respect to the monitoring equipments: type (model or at least specify accuracy class or max error range), quantity, function (main or back up), location, nature (uni or bidirectional);</p> <p>It is necessary to describe a proper QA/QC procedure for the electricity generation parameter. The given information is not conclusive and cannot be accepted as an effective QA/QC procedure (i.e. energy balance of the plant). Revision is necessary (i.e. energy balance of the plant/ cross check with other operational parameters).</p>			
<p>B.6.3. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology? (EB 44 Annex 3 121 (b), 122)</p> <p><i>Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.</i></p> <p><i>Please consider that additional equations might be</i></p>	<p><i>Description:</i> No, CAR B3 was raised. See below.</p> <p><i>Justification of evidences:</i> the PDD was reviewed and compared with the equations provided in AMS I.A.</p> <p><i>Conclusion:</i></p> <p><b>(CAR B3)</b> Please include ex-post monitoring of the operational parameters (i.e. natural gas consumptions, steam generation,</p>	<p>/PDD/ /AMS I.A./ /GCP/</p>	<p><b>CAR B3</b></p>	<p>OK</p>

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
<i>necessary to calculate auxiliary parameters.</i>	<p>steam consumption, electricity generation and natural gas NCV) and ex-post calculation of baseline efficiency.</p> <p>For conservative ex-post calculation of ER, please include in the calculation approach in section B.6.1 that in case the ex-post calculated value for fuel consumption efficiency is higher than the fixed ex-ante figure it shall be used for the calculation of baseline emissions.</p> <p>The rationale for that is that in case any of the generating units is replaced (for more modern and efficient one) or in case the least efficient ones are removed during the crediting unit, fixed ex-ante fuel consumption efficiency for the entire crediting period would not be conservative. Therefore, by monitoring and calculating ex-post the fuel consumption efficiency and using it in case it is higher than the ex-ante figure ensures a conservative calculation of baseline emissions.</p>			
<p>B.6.4. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity? (EB 44 Annex 3 122 (c))</p> <p><i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.</i></p>	<p><i>Description:</i> Findings above need to be closed before forming an opinion.</p> <p><i>Justification of evidences:</i> Section B.7.2 was reviewed in detail.</p> <p><i>Conclusion:</i> Not yet possible to reach a conclusion.</p>	<p>/PDD/ /AMS I.A./ /GCP/ /TD/ /IM01/</p>	<p><del>CAR</del> <del>B3</del>  CL-B4  CL-B5  CL-B6</p>	OK
B.6.5. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activit can be	<p><i>Description:</i> It is important to note that Methanex has a certified ISO9001 QMS and that all CDM monitoring will be embedded in the company's QMS.</p>	<p>/PDD/ /AMS I.A/</p>	<p><del>CL-B6</del> CL-B7</p>	OK

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>reported ex-post and verified? (EB 44 Annex 3 122 (b))</p> <p><i>Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</i></p>	<p>However, CL B6 was raised above. Please refer to it. In addition, CL B7 was raised. Please see below.</p> <p><i>Justification of evidences:</i> See CL B6 and CL B7</p> <p><i>Conclusion:</i> CL B6 and CAR B7 were raised.</p> <p><b>(CL B7)</b> In section B.7.1, please specify the Chilean standards, ensuring that calibration frequency will be at least every 3 years (or more frequently).</p>	<p>/GCP/</p>		
<p>B.6.6. Are procedures identified for data management? (EB 44 Annex 3 122 (b))</p> <p><i>Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation</i></p> <p><i>Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.</i></p>	<p><i>Description:</i> Yes, procedures are described in section B.7.2 of the PDD. As explained just above, Methanex has a certified ISO9001 QMS and that all CDM monitoring will be embedded in the company's QMS.</p> <p><i>Justification of evidences:</i> Section B.7 of the PDD was reviewed in detail and interviews were performed with representatives of the PP.</p> <p><i>Conclusion:</i> Project makes provisions for data management.</p>	<p>/PDD/</p>	<p>OK</p>	
<p><b>C. Duration of the Project/ Crediting Period</b></p> <p><i>It is assessed whether the temporary boundaries of the project are clearly defined.</i></p>				



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>C.1. Is the project's starting date clearly defined and evidenced? (EB 44 Annex 3, 97)</p> <p><i>Check whether the starting date is correct. Apply the definition of the project starting date as per the "Glossary of CDM terms".</i></p>	<p><i>Description:</i> Yes, the starting date stated in section C.1.1 is the date of the purchase order of the wind turbine generators, which represents by far the highest financial commitment for project implementation and the point of time where the financial decision was taken, which is in line with the definition of starting date in the Glossary of Terms. However, CL C1 was raised. See below.</p> <p><i>Justification of evidences:</i> The contract with the supplier and also the implementation chronogram of the project were reviewed.</p> <p><i>Conclusion:</i> <b>(CL C1)</b> In section C.1.1, please revise project starting date to be consistent with the purchase order of the wind generator equipments (2009/12/02).</p>	<p>/PDD/ /GT/ /SD/ /IM01/</p>	<p><del>CL C1</del></p>	<p>OK</p>
<p>C.2. Is the project's operational lifetime clearly defined and evidenced?</p> <p><i>Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).</i></p> <p><i>Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.</i></p>	<p><i>Description:</i> Yes, the expected operational lifetime stated in the PDD is 21 years, which is in line with public information supplied by the manufacturer of the wind turbine generators (Vestas), who estimates a lifetime of 20 to 25 years for their equipment.</p> <p><i>Justification of evidences:</i> A Life Cycle Assessment in the website of Vestas was reviewed and clearly estimates a lifetime from 20 to 25 years for their equipment.</p> <p><i>Conclusion:</i> The operational lifetime is clearly defined and in line with the range provided by the manufacturer of the equipment.</p>	<p>/PDD/ /TD/</p>	<p>OK</p>	
<p>C.3. Is the start of the crediting period clearly</p>	<p><i>Description:</i> CL C2 was raised. See below</p>	<p>/PDD/</p>	<p><del>CL C2</del></p>	<p>OK</p>

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>defined and reasonable?</p> <p><i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.</i></p>	<p><i>Justification of evidences:</i> See below</p> <p><i>Conclusion:</i></p> <p><b>(CL C2)</b> In section C.2.1.1, the date of beginning of crediting period identified was 01/10/2010, however the table of ER calculation given of PDD sections B.6.4 and A.4.3 starts on 2011. Please, correction is necessary.</p>	<p>/SD/</p>		
<p><b>D. Environmental Impacts</b></p> <p><i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.</i></p>				
<p>D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)?</p> <p>(EB 44 Annex 3, §§ 129 – 131)</p> <p><i>Check the host party regulations, regarding EIA.</i></p>	<p><i>Description:</i> No, according to the Chilean General Law of Environment (Law 19300), projects below 3 MW do not need to be included in the national system of environmental impact assessment (they only need to and thus do not need to present neither an EIA nor a DIA (simplified Declaration of Environmental Impact). However, the project participant decided to voluntary present a DIA to the environmental authority (CONAMA). The DIA was reviewed and formally approved by CONAMA.</p> <p><i>Justification of evidences:</i> The Chilean law 1930 was reviewed to confirm the requirements for the environmental assessment. The DIA presented was reviewed and its approval through Resolution of Environmental Qualification was also reviewed. Both documents are</p>	<p>/PDD/ /IM01/ /IM02/ /dna/ /seia/ /19300/ /DIA/</p>	<p>OK</p>	

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p>publicly available in the webpage of SEIA (the national system of environmental impact assessment), which operates under CONAMA.</p> <p><i>Conclusion:</i> The project complies with the requirements and obtained approval from the national environmental authority.</p>			
<p>D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved? (EB 44 Annex 3, §§ 129 – 131) <i>Check the EIA and its approval, if applicable.</i></p>	<p><i>Description:</i> Yes, see comment above</p> <p><i>Justification of evidences:</i> see above.</p> <p><i>Conclusion:</i> project has obtained environmental approval.</p>		OK	
<p>D.1.3. Has an analysis of the environmental impacts of the project activity been sufficiently described and in line with the host party environmental legislation? (EB 44 Annex 3, §§ 129 – 131) <i>Check the PDD (section D). Check whether the project will create any adverse environmental effects.</i> <i>Check the relevant national environmental legislation.</i></p>	<p><i>Description:</i> Although there are no requirements for a development of an EIA or DIA for the project activity, in section D.1 provides a direct link to the webpage of the SEIA where both the DIA presented and the Resolution of Environmental Qualifications issued by CONAMA are available.</p> <p>The project does not generate significant negative environmental impacts.</p> <p><i>Justification of evidences:</i> The Resolution issued by CONAMA was reviewed and there are no severe negative impacts identified for the project. Furthermore, the future site of the project was visited by the validation team and it considered adequate for a wind park.</p> <p><i>Conclusion:</i> The project complies with the requirements.</p>	/PDD/ /seia/ /DIA/	OK	

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>D.1.4. Are transboundary environmental impacts considered in the analysis?</p> <p>(EB 44 Annex 3, §§ 129 – 131)</p> <p><i>Check the documents and local official sources / expertise regarding transboundary environmental impacts.</i></p>	<p><i>Description:</i> No, there are no transboundary environmental impacts envisaged for this project activity.</p> <p><i>Justification of evidences:</i> NA</p> <p><i>Conclusion:</i> There are no transboundary environmental impacts envisaged for this project activity.</p>	<p>/PDD/ /DIA/ /IM01/ /IM02/</p>	<p>OK</p>	
<p><b>E. Stakeholder Comments</b></p> <p><i>The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i></p>				
<p>E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD?</p> <p>(EB 44 Annex 3, § 126)</p> <p><i>Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.</i></p>	<p><i>Description:</i> Yes, stakeholders were invited for a meeting through an open public announcement in the local newspaper. Relevant stakeholders were invited also by letter. Several relevant stakeholders attended the meeting (on 2009/09/04), as described in section E.1 of the PDD. The meeting was prior to the publication of PDD for global stakeholder consultation (2010/01/09).</p> <p><i>Justification of evidences:</i> The newspaper add was evidenced. The attendance list, pictures and video of the meeting were submitted to and reviewed by the validation team. During the stay in Punta Arenas the validation team had the opportunity to talk to stakeholders who showed the community welcomes the first wind project in the region of Magallanes (XII region of Chile, extreme south).</p>	<p>/PDD/ /IM01/ /IM02/ /SHC/ /dna/</p>	<p>OK</p>	

<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Ref.</b>	<b>Draft Concl.</b>	<b>Final Concl.</b>
	<p><i>Conclusion:</i> Relevant stakeholders attended the meeting which confirms the adequacy of the invitation method.</p>			
<p>E.2. Can the local stakeholder consultation process be assessed as adequate? (EB 44 Annex 3, § 127 (a) – 127 (c))</p> <p><i>Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.</i></p> <p><i>Please consider the following requirements in this context:</i></p> <p><i>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</i></p> <p><i>(b) The summary of the comments received as provided in the PDD is complete;</i></p> <p><i>(c) The project participants have taken due account of any comments received and have described this process in the PDD.</i></p>	<p><i>Description:</i> Yes, attendees received printed material with a description of the project, followed by a presentation according to the agenda in section E.1. After the presentation there was a discussion round where comments were invited and doubts were clarified. No negative comments were received.</p> <p>Furthermore, the project does not result in significant negative environment impacts and rather positive environmental and social impacts are expected. However, for further clarification in the PDD, one CL was raised. See CL E1 below.</p> <p><i>Justification of evidences:</i> The evidences about the stakeholder consultation process were reviewed, as explained above in E.1. Section E of the PDD was reviewed and the summary of comments reflects the contents of the available evidence.</p> <p><i>Conclusion:</i> The process was adequate, but for further clarity in the PDD, please:</p> <p><b>(CL E1)</b> In section E, please include a statement about the compliance of the local stakeholder consultation with the rules of the CONAMA (DNA).</p>	<p>/PDD/ /IM01/ /IM02/ /SHC/ /dna/</p>	<p><del>CL E1</del></p>	<p>OK</p>

## ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

**Table A-2:** Assessment of Baseline Identification

<input checked="" type="checkbox"/>	Baseline is not identified (i.e. it is given by the baseline methodology)
<input type="checkbox"/>	Assessment of baseline see below

Baseline Alternatives identified	Inline with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	

## ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

**Table A-3:** Assessment of Financial Parameters

<input type="checkbox"/>	No financial parameters are used for additionality justification						
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below						
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
Austral TAX rate	32	%	19606 Law: "Establish incentives for the economic development of Aysen and Magallanes Region and the province of Palena", <a href="http://www.bcn.cl/leyes/134828">http://www.bcn.cl/leyes/134828</a> . 20.320 Law: "Extending the incentives for economic development of regions of Aysen and Magallanes and the province of Palena and amending the law of free zones contained in the DFL No. 2, 2001 of the Ministry of Finance", <a href="http://www.diariooficial.cl">http://www.diariooficial.cl</a>	/FD/ /XLS/	The value applied was correctly identified according to the referenced Chilean Laws 19606 and 20.320, dated respectively April 1999 and December 2008.	The reference documents are National Laws available to the public and applicable to the project activity.	According to the National Laws 19606 the Methanex facility is eligible to gain public incentive due to the fact that is contributing to the economic development of the XII Region of Chile. The identification of the Methanex return rate range as per the above Laws requirement is clearly shown in the financial spreadsheet.



			<a href="/actualidad/20ulle/20320.html">/actualidad/20ulle/20320.html</a>				
Benchmark	14,9	%	Calculated based on the Capital Asset Pricing Model (CAPM)	/PDD/ /XLS/	The identified value was correctly calculated based on CAPM financing approach and no deviation could be detected. The input values of the financial parameters are based on data available at time of investment decision.	All references used for the benchmark calculation were provided to the validation team and are from recognized financial institutions.	CAPM is commonly applied to theoretically determine an appropriate rate of return of an asset. Its calculation takes into account the expected return of a theoretical risk-free asset ( $R_f$ ), systematic risk or market risk ( $\beta$ ), the expected risk premium of the market ( $R_m - R_f$ ) and the country risk. The risk country is applied because the applied $\beta$ derives from the USA Chemical Specific Industries, therefore the local country risk must be applied. The calculation approach of the benchmark is clearly described in the financial spreadsheet. The PP decides not to made public available the values used for calculation, but has provided to the validation team and the EB all necessary information to assess the correctness of the identified benchmark. Please refer to the parameters applied in the benchmark calculation in this table for transparency of the benchmark determination.
Country risk ( $R_{country}$ )	2,1	%	Damodaran on line web page <a href="http://pages.stern.nyu.edu/~adamodar/">http://pages.stern.nyu.edu/~adamodar/</a>	/PDD/ /XLS/	The value applied could be checked in Damodaran online web page. No deviation was	Professor Damodaran holds M.B.A. and Ph.D. degrees from the University of California, Los Angeles, as well as a B.Com. in Accounting from	Considering that professor Damodaran is well known expert in financial parameters calculation, the validation team agrees with the use of the value applied.

					detected. The latest web site actualization is from January 2010 and the value used is from January 2009.	Madras University and a PGDM from the Indian Institute of Management Bangalore His web page has been online since 1998 and the published information is widely use for financial analysis all over the world.	
Energy Generation	10,722,2	MWh/year	Project equipment specifications and wind availability studies	/TD/	Values determined according the wind turbines' manufacture r specification and independent wind availability studies dated July and December 2008.	The equipment's specification is public available and the wind studies are from recognized organizations.	The equipment's input data was determined as per the manufacture's specification (3 x 850 kW). The plant load factor (48%) was conservatively determined based on two independent wind availability studies on the project activity location (see assessment of parameter below). All formulas applied are clearly identified in the financial spreadsheet.
Expected return of a theoretical risk-free asset ( $R_f$ ),	6,23	%	Banks and Financial Institutional Association from Chile	/PDD/ /FD/ /XLS/	The identified $R_f$ was identified	The ABIF is the Chilean banks and financial institutions	The identified value corresponds to the 10-year bond (BCP) of the Central Bank of Chile for the date when the contact was signed. The considered bond does not include inflation

					based on ABIF data.	association which is an organization that get together all the banks and national and international private financial institutions that are established in the country.	rates according the economic evaluation.
Expected risk premium of the market ( $R_m - R_f$ )	7,1	%	Damodaran on line web page <a href="http://pages.stern.nyu.edu/~adamodar/">http://pages.stern.nyu.edu/~adamodar/</a>	/PDD/ /XLS/	The value applied could be checked in Damodaran online web page. No deviation was detected. The latest web site actualization is from January 2010 and the value used is from January 2009.	Professor Damodaran holds M.B.A. and Ph.D. degrees from the University of California, Los Angeles, as well as a B.Com. in Accounting from Madras University and a PGDM from the Indian Institute of Management Bangalore His web page has been online since 1998 and the published information is widely use for financial analysis all over the world.	Considering that professor Damodaran is well known expert in financial parameters calculation, the validation team agrees with the use of the value applied.
Load Factor	48	%	"Micro-modulation of Cabo Negro Sector and	/TD/	The value applied is	The wind availability	The plant load factor was conservatively determined based on two independent wind

			Eolic Park Implementation” realized by Universidade de Magallanes on December 2008; and “Preliminary Analyses on eolic exploration in Punta Arenas” realized by EcofysVelgest S.A. on July 2008.		the most conservative between the studies.	studies were performed by recognized local institutions.	availability studies on the project activity location. The validation team concludes that the most conservative value has been applied considering that the lower valued identified was 41%.
Natural gas consumption efficiency	0.00167	(MWh/m <sup>3</sup> )	Monitored by Methanex. Data sheet “FCE.xls”	/MSI/ /XLS/	The value is an average of the efficiency from the years 2006 to 2009. Data from the last recent three years, including 2009 as the starting date of the project is at the very end of 2009, was considered, which is deemed appropriate.	Information is electronically available in internal Methanex Process Information System.	All equipment’s TAGs were checked during on-site visit and the related monitoring information (natural gas consumption and amount of generated electricity) given in “FCE data” sheet could be cross-checked during the site visit with the internal Methanex Process Information System. No deviation could be found. The natural gas consumption efficiency determination was performed based on individual equipment’s performance and considering the direct (natural gas turbines) and indirect (system steam turbines) natural gas consumption. All formulas and calculation are clearly described in “FCE” and “FCE data” spreadsheets.
Natural Gas NCV	0.035	(GJ/m <sup>3</sup> )	Monitored by Methanex. Data sheet “NCV data.xls”	/MSI/ /XLS/	The value is an average of the	Information is electronically available in	The monthly MMBTU values of the bought natural gas of each Methanex plant are kept registered according to internal Methanex

					efficiency from the years 2006 to 2009. Data from the last recent three years, including 2009 as the starting date of the project is at the very end of 2009, was considered, which is deemed appropriate.	internal Methanex Process Information System.	system. Additionally, the natural gas consumption is monthly recorded for each Methanex plant (4 in total). During on-site visit all input data used in "NCV data" sheet could be cross-checked with internal Methanex Process Information System. All formulas and calculation are clearly described in "NCV" and "NCV data" spreadsheets.
Natural gas price	3,5	U\$/MM BTU	Internal Methanex information. News paper: "El Magallanes" 14/05/09 "Prensa Austral" 06/05/09 <a href="http://www.methanex.com/products/documents/MxAvgPrice_Aug302010.pdf">http://www.methanex.com/products/documents/MxAvgPrice_Aug302010.pdf</a>	/FD/ /XLS/	The value applied is public available and uses data from May 2009. Moreover, is the most conservative compared with data from 2010, which could be evidenced	National public available data and internal Methanex information have been checked.	The most conservative value between the public available data and value evidenced in Methanex's note of receipt of purchased natural gas was applied. Additionally, a growth rate was included to determine the future prices of the natural gas price. The growth tax was determined based on the monthly Methanol price published in Methanex website. The gas price showed a decrease over the past five years by 2.1%. For a conservative calculation this negative growth was calculated as an increase of 2.1%. In the sensitivity analysis it was shown that an increase of 10% of the price does not result in crossing the benchmark. The validation team further tested that even a 156 % increase in the natural gas

					during site visiting.		price would not lead that the IRR of the project crosses the benchmark.
1. Equipment and materials (3,046,102)	Total Investment considering the sum of the presented on the left: 7,895,845	U\$	Vestas contract page 37	/FD/ /XLS/	Vestas contract (12/2009) The value applied is in accordance the documents checked during on-site visit. The report of Ecofysvalgesta S.A. is dated July 2008.	All documents (i.e. contracts signed, purchase orders and quotations) could be properly assessed during on-site visiting.	All formulas and calculation are clearly described in "Data" sheet. The total investment corresponds to the sum of equipment's, materials, civil works and engineering costs. All input data are found to be correct. All the documents could be properly assessed by the validation team and no deviations could be detected.
2. Tower (1,200,000)							
3. On Line Vestas (405,000)							
4. Tower and Generator Assembly (102,000)							
5. Foundation(93,000)							
6. Concrete (131,000)							
7. Access Roads (859,000)							
8. Crane rental (278,000)							
9. Transport (944,000)							
10. Engineering and previous studies (323,000)							
11. Electrics interconnection facilities (144,000)							
12. Transmission line and plant connection (45,000)							
13. Substations (114,000)			EcofysValgesta Report, page 25				
			S.A				

14. Land (0)							
			Assumption of 3% of the investment (considering values 1 to 9 of the total investment)				
15. Others (211,743)							
O&M costs	78,378.28	US\$	EcofysValgesta S.A report, page 22	/FD/ /XLS/	O&M costs value is in line with EcofysValgesta S.A. report, dated July 2008.	EcofysValgesta S.A. 's report, could be checked and no deviations were detected.	All formulas and calculation are clearly described in "Data" sheet. The O&M costs were correctly identified as indicated in EcofysValgesta report.
Residual Value	1,687,540.27	US\$	Methanex assumption of 30% of investment	/XLS/	The value applied was conservatively determined.	Methanex expertise	All formulas and calculation are clearly described in "Data" sheet. Although a linear depreciation is applied in line with Chilean accounting regulations, and the assets will be fully depreciated at the end of the assessment period, a factor of 30% over the total investment has been applied as residual value at the end of the assessment period. This has been evaluated as very conservative by the validation team.
Systematic risk or market risk ( $\beta$ )	0,92	%	Damodaran on line web page <a href="http://pages.stern.nyu.edu/~adamodar/">http://pages.stern.nyu.edu/~adamodar/</a>	/PDD/ /XLS/	The value applied could be checked in Damodaran online web page. No deviation was detected. The latest web site actualization	Professor Damodaran holds M.B.A. and Ph.D. degrees from the University of California, Los Angeles, as well as a B.Com. in Accounting from Madras University and a PGDM from the Indian Institute of	Considering that professor Damodaran is well known expert in financial parameters calculation, the validation team agrees with the use of the value applied. The Beta factor was obtained from USA stock market information under Chemical Specific Industries, which Methanex is also included. It was estimated by regressing weekly returns on stock against New York Stock Exchange composite using 5 years of data or listed period.



					is from January 2010 and the value used is from January 2009.	Management Bangalore His web page has been online since 1998 and the published information is widely use for financial analysis all over the world.	
TAX rate	35	%	Income Tax rate Chile. <a href="http://www.sii.cl/aprenda_sobre_impuestos/estudios/sistemrenta_ingles.htm">http://www.sii.cl/aprenda_sobre_impuestos/estudios/sistemrenta_ingles.htm</a>	/FD/ /sii/ /XLS/	The value applied is in line with the Chilean Income Tax rules.	The reference document is a National Regulation available to the public and applicable to the project activity.	The Chilean Service of Income Tax could be checked and no deviations could be detected.
Technical operational Lifetime	21	years	Vesta's equipments specification	/TD/	The value applied is in line with Vestas's Life Cycle Assessment	The document is public available and is in line with equipment's manufacture specifications.	The Vestas's Life Cycle Assessment document could be properly checked and no deviations were detected.

## ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

**Table A-4:** Assessment of Barrier Analysis

<input type="checkbox"/>	No barrier parameters are used for additionality justification			
<input checked="" type="checkbox"/>	Assessment of barriers see below			
Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
Investment	The project activity is not financial attractive as the calculated project IRR (5.6%) is lower than the identified benchmark (14.9%).	/PDD/ /XLS/	<input type="checkbox"/>	<p>For a detailed assessment of the investment barrier, please refer to table A-3 above.</p> <p>A sensitivity analysis was also performed and even with a variation of 10% in the most relevant parameters (load factor, cost of natural gas and total investment) the IRR goes up to 6.4%, which is still significantly below the benchmark.</p> <p>The benchmark would only be crossed in case the price for natural gas increases by 156% and the PLF increases by 156% or in case the investment cost would be reduced by 64%. The increase of the PLF is highly unlikely as the PLF was already chosen conservative with 48%. The increase of the gas price is also unlikely as an annual rate of growth of 2.1% has already been considered over the 21 year project lifetime. The investment costs have already been proved and a decrease in costs is not possible anymore.</p> <p><b>Conclusion: Barrier is justifiable and decisive</b></p>

<b>Prevailing practice</b>	<p>The electricity energy generation based on wind power is not the common practice in Chile, which has only three eolic parks under activity, the first of them was approved in 2006. Considering the project location – XII<sup>th</sup> Chilean region, where the common practice is the natural gas based electricity energy generation – this project activity is the first of its kind. Moreover, it is important to note that this project activity is the first in the host country which will produce eolic based electricity energy for internal consumption instead of delivering it to the grid.</p>	<p>/PDD/ /cne/ /seia/</p>	<input checked="" type="checkbox"/>	<p>The geographical region considered for the analysis is the XII Chilean region of Magallanes, which his deemed appropriate as it is a very isolated region disconnected by roads from the rest of the country.</p> <p>The National Commissioning Energy website was consulted and could be checked there are only three wind farms under activity in Chile. Additionally, it was evidenced that in the XII<sup>th</sup> region of Chile the common practice for electricity energy generation is based on natural gas usage and that the project activity is <u>the first</u> eolic farm in the region. Furthermore it is a fact that this project is the <u>first of its kind</u> in the country not connected to the national grid but for captive wind based electricity energy.</p> <p>Thus the project serves as a clean technology demonstration case in the region.</p> <p><b><u>Conclusion: Barrier is justifiable and decisive</u></b></p>
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## ANNEX 5: OUTCOME OF THE GSCP

**Table A-5:** Outcome of the Global Stakeholder Consultation Process  
(§§ 41, 42 VVM Version 1)

<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period					
<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:					
Comment No.:	Comment by:	Inserted on:	Subject	Comment <sup>*)</sup>	Action taken by the validation team to take due account on the comment <sup>*)</sup>	Conclusion (incl. CARs CLs or FARs)

<sup>\*)</sup> In case clarifications have been requested by the validation team corresponding rows shall be added

## ANNEX 6: APPOINTMENT CERTIFICATES OF TEAM MEMBERS



TÜV NORD CERT GmbH • P.O. Box 10 32 61 • 45032 Essen • Germany

Mr. Rainer Winter

TÜV NORD CERT GmbH  
Langenmarkstrasse 20  
45141 Essen  
Germany  
Phone: +49 201 825-0  
Fax: +49 201 825-2517  
Info.tnord@tuv-nord.de  
www.tuv-nord-cert.com

TÜV®

Our / Your Reference: Contact: Direct Dial: Date:  
E-Mail: r.winter@tuv-nord.de Phone: 3329 09.02.2010  
Fax: -2139

### Authorization for Technical Areas / Sectoral Scopes

Dear Mr. Winter,

According to the requirements as specified in the TÜV NORD JI/CDM CP directives and the proven technical experience you are authorized for technical areas / sectoral scopes as follows:

Sectoral Scope	Technical Area	Basis for authorization	Date of Authorization
1	G - Energy Industry	1993-2009: RWTUV Anlagen Technik GmbH, RWTUV Systems, TÜV NORD CERT GmbH (> 10 Emission Assessments in Industrial Plants, A1).	2010-02-09
1*	K - Fuel Switch	TÜV NORD JI/CDM CP VVC project activity: 05/003 09/254	2010-02-09
1*	S - Steam Systems	TÜV NORD JI/CDM CP VVC project activity: 07/028 09/127	2010-02-09
1*	T - Farm Wind	TÜV NORD JI/CDM CP VVC project activity: 05/004 09/010	2010-02-09
1*	U - Biomass	TÜV NORD JI/CDM CP VVC project activity: 05/004 09/005	2010-02-09
1*	J - Distribution and treatment gas	TÜV NORD JI/CDM CP VVC project activity: 09/048 09/048	2010-02-09
4	B - Cement and mineral production	1993-2009: RWTUV Anlagen Technik GmbH, RWTUV Systems (20 Emission Assessments in cement production, A1).	2010-02-09
4, 9	O - Metal ferrous	1993-2001: RWTUV Anlagen Technik GmbH (20 Emission Assessments in metal ferrous production, A1).	2010-02-09
4*	F - EE Industry	TÜV NORD JI/CDM CP VVC project activity: 05/003 09/143	2010-02-09
5	AF - Chemical Industry (other than N2O)	1993-2001: RWTUV Anlagen Technik GmbH (> 10 Emission Assessments in chemical industry, A1).	2010-02-09
5*	Q - N2O	TÜV NORD JI/CDM CP VVC project activity: 05/005 09/437	2010-02-09
13	N - Waste Management	1993-2009: RWTUV Anlagen Technik GmbH, RWTUV Systems (Environmental Assessments, A1).	2010-02-09

\* Extension of technical areas within sectoral scopes

Best regards,

Dipl.-Ing. Eric Krupp

Deputy of TÜV NORD JI/CDM Certification Program

Headquarters  
TÜV NORD CERT GmbH  
Langenmarkstrasse 20  
45141 Essen  
Germany  
Phone: +49 201 825-0  
Fax: +49 201 825-2517  
Info.tnord@tuv-nord.de  
www.tuv-nord-cert.com

Director  
Dipl.-Ing. Ulf Thiele  
Deputy Director  
Dipl.-Ing. Wolfgang Welpatz

Registration Office  
Amburgstr. 20  
45141 Essen  
Germany  
VAT No.: DE 811359523  
Tax No.: 11157562193

Deutsche Bank AG, Essen  
Bank Code: 36 750 00  
Account No.: 060755000  
BIC (SWIFT Code): DEUTDE33  
IBAN Code: DE 36 3607 5500 0607 5500 00



TÜV NORD CERT GmbH • P.O. Box 10 32 61 • 45032 Essen • Germany

Ingo Klein

TÜV NORD CERT GmbH  
Langenmarkstrasse 20  
45141 Essen  
Germany  
Phone: +49 201 825-0  
Fax: +49 201 825-2517  
Info.tnord@tuv-nord.de  
www.tuv-nord-cert.com

TÜV®

Our / Your Reference: Contact: Direct Dial: Date:  
E-Mail: r.winter@tuv-nord.de Phone: 3329 11.02.2010  
Fax: -2139

### Authorization for Technical Areas / Sectoral Scopes

Dear Mr. Ingo Klein,

According to the requirements as specified in the TÜV NORD JI/CDM CP directives and the proven technical experience you are authorized for technical areas / sectoral scopes as follows:

Sectoral Scope	Technical Area	Basis for authorization	Date of Authorization
1	G - Energy Industry	2002-09 - 2009-01: Gesellschaft für Betriebsberatung, Sicherheits- und Umweltfragen mbH (GBU), Düsseldorf/Germany, Consultant.	2010-02-11
1	J - Distribution and treatment gas	2002-09 - 2009-01: Gesellschaft für Betriebsberatung, Sicherheits- und Umweltfragen mbH (GBU), Düsseldorf/Germany, Consultant.	2010-02-11
1*	S - Steam Systems	TÜV NORD JI/CDM CP VVC project activity: 08/441 08/475	2010-02-11
1*	T - Farm Wind	TÜV NORD JI/CDM CP VVC project activity: 08/454 08/454	2010-02-11
1*	U - Biomass	TÜV NORD JI/CDM CP VVC project activity: 08/442 08/207	2010-02-11

\* Extension of technical areas within sectoral scopes

Best regards,



Dipl.-Ing. Rainer Winter

Head of TÜV NORD JI/CDM Certification Program

Headquarters  
TÜV NORD CERT GmbH  
Langenmarkstrasse 20  
45141 Essen  
Germany  
Phone: +49 201 825-0  
Fax: +49 201 825-2517  
Info.tnord@tuv-nord.de  
www.tuv-nord-cert.com

Director  
Dipl.-Ing. Ulf Thiele  
Deputy Director  
Dipl.-Ing. Wolfgang Welpatz

Registration Office  
Amburgstr. 20  
45141 Essen  
Germany  
VAT No.: DE 811359523  
Tax No.: 11157562193

Deutsche Bank AG, Essen  
Bank Code: 36 750 00  
Account No.: 060755000  
BIC (SWIFT Code): DEUTDE33  
IBAN Code: DE 36 3607 5500 0607 5500 00



### CERTIFICATE OF APPOINTMENT

**Mr. Dipl.-Ing. Rainer Winter**

born on 1963-02-21

satisfies the requirements as specified in the TÜV NORD  
JI/CDM CP directives and is hereby re-appointed as

**TÜV NORD JI/CDM Senior Assessor**

The present appointment will terminate on 2013-07-03

Certification registration No. 04 02 154-03

Initial appointment Assessor: 2004-03-01

Senior Assessor: 2007-07-07

Essen, 2010-07-04

  
Deputy of TÜV NORD JI/CDM Certification Program  
of TÜV NORD CERT GmbH

### CERTIFICATE OF APPOINTMENT

**Mr. Ingo Klein**

born on 1973-05-15

satisfies the requirements as specified in the TÜV NORD  
JI/CDM CP directives and is hereby appointed as

**TÜV NORD CDM Assessor**

The present appointment will terminate on 2013-10-17

Certification registration No. 10 10 05 – 122

Essen, 2010-10-18

  
Head of TÜV NORD JI/CDM Certification Program  
of TÜV NORD CERT GmbH

### CERTIFICATE OF APPOINTMENT

**Ms. Inga Köster**

born on 1971-12-12

satisfies the requirements as specified in the TÜV NORD  
JI/CDM CP directives and is hereby appointed as

**TÜV NORD JI/CDM Assessor**

The present appointment will terminate on 2012-01-15

Certification registration No. 09 01 01 – 45 rev.01

Essen, 2009-01-16

  
Head of TÜV NORD JI/CDM Certification Program  
of TÜV NORD CERT GmbH



### CERTIFICATE OF APPOINTMENT

**Mr. Fernando Pasquali Pacheco**

born on 1982-05-01

satisfies the requirements as specified in the TÜV NORD  
JI/CDM CP directives and is hereby appointed as

**TÜV NORD CDM Expert**

The present appointment will terminate on 2012-11-29  
Certification registration No. 09 11 14 - 71

Essen, 2009-11-30



Head of TÜV NORD JI/CDM Certification Program  
of TÜV NORD CERT GmbH



### CERTIFICATE OF APPOINTMENT

**Mr. Ricardo Ribeiro Lopes**

born on 1972-11-03

satisfies the requirements as specified in the TÜV NORD  
JI/CDM CP directives and is hereby appointed as

**TÜV NORD CDM Assessor**

The present appointment will terminate on 2013-11-04  
Certification registration No. 10 11 01 - 77

Essen, 2010-11-05



Head of TÜV NORD JI/CDM Certification Program  
of TÜV NORD CERT GmbH



### CERTIFICATE OF APPOINTMENT

**Ms. Alexandra Nebel**

born on 1980-07-25

satisfies the requirements as specified in the TÜV NORD  
JI/CDM CP directives and is hereby appointed as

**TÜV NORD CDM Assessor**

The present appointment will terminate on 2012-11-19  
Certification registration No. 09 11 08 - 95

Essen, 2009-11-20



Head of TÜV NORD JI/CDM Certification Program  
of TÜV NORD CERT GmbH