VALIDATION REPORT

WAYCARBON SOLUÇÕES AMBIENTAIS E PROJETOS DE CARBONO LTDA.

GRID CONNECTED ELECTRICITY GENERATION FROM RENEWABLE SOURCE: WINDFARM COMPLEX SANTA VITÓRIA DO PALMAR AND CHUÍ

Report No: 8624 – 12/023

Date: 2012-10-26

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Validation Report:	***Report No.***	***Rev. No.***	***Date of 1st issue:***	***Date of this rev.***
	8624 – 12/023	0.1	2012-06-26	2012-10-26
Project:	***Title:***		***Initial PDD Version:***	***Final PDD Version***
	Grid connected electricity generation from renewable source: Windfarm Complex Santa Vitória do Palmar and Chuí		2012-01-10 – v. 01	2012-06-22 – v. 03
Client:	WayCarbon Soluções Ambientais e Projetos de Carbono Ltda.		***Client ref:***	Felipe Bittencourt
Project Participant(s):	***Host Party:***		***Other involved parties:***	
	Brazil		-	
Applied methodology/ies:	***Title:***		***No.:***	***Scope / TA:***
	Consolidated baseline methodology for grid-connected electricity generation from renewable sources		ACM0002 – v. 12.2.0	1 / 1.2
Validation team / Technical Review and Final Approval	***Validation Team:***		***Technical review:***	***Final approval:***
	Ricardo Lopes Sergio Cruz		Emilio Martin	Alexandra Nebel
Expected Emission reductions: [t CO_2e]	***Expected emission reductions over the first crediting period:***		***(Expected) project starting date:***	
	4,484,942 t CO_2e		2012-06-15	
Confidential content:	☐ Yes		☒ No	
Summary of Validation Opinion:	☒ Positive validation opinion		☐ Negative validation opinion	

In detail the conclusions can be summarized as follows:

☒ The project is in line with all relevant host country criteria (Brazil) and all relevant UNFCCC requirements for CDM. At the time of the completion of the validation, the LoA was pending. For the Brazilian DNA, a positive validation opinion is a prerequisite for the host government approval and thus the LoA could not be considered at rev. 0 of the validation stage.The LoA has been issued on 2012-10-17. Changes of this revision 0.1 are only made to applicable UNFCCC requirements (team competence) and LoA assessment and not to the project activity content.

☒ 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 4,484,942 tCO_2e are most likely to be achieved within the (1st renewable) crediting period.

☒ 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.

Document information:	*Filename:*	*No. of pages:*
	2012-10-26_FValRep_Palmar-Chui_post LoA.doc	143

Abbreviations

ANEEL	Brazilian Electricity Regulatory Agency
BAU	Business as usual
BM	Build Margin
BNDES	National Bank for Social Economic Development
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CCEE	Chamber of Commerce of Electric Energy
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CM	Combined Margin
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CONAMA	National Environmental Council
CP	Certification Program
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
ELETROBRÁS	National Electric Utility Company (State Owned)
EPE	Energetic Research Enterprise (National Energy Balance)
FAR	Forward Action Request
FEPAM	Environmental Agency of the State of Rio Grande do Sul
GHG	Greenhouse gas(es)
GT	Glossary of Terms
IBAMA	Institute of the Environment and Renewable Natural Resources of Brazil
ICG	Transmission Installation of Shared Connection for Generation Centrals
IEE	Electric Power Index
IPCC	Intergovernmental Panel on Climate Change
OM	Operating Margin
ONS	National Operator of the Electric System
OSV	On-site visit
PDD	Project Design Document
PPA	Power Purchase Agreement
QA/QC	Quality assurance/Quality control
RAS	Simplified Environmental Report
SEMA	Secretary of the Environment of the State of Rio Grande do Sul
SIN	National Interconnected System
TFSEE	Tariff of Electric Energy Services Inspection
TUST	Tariff of the Use of the Transmission System
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party to 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[/VVM/], 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 01.2, EB 55).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

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	Grid connected electricity generation from renewable source: Windfarm Complex Santa Vitória do Palmar and Chuí		
Project size	☒ Large Scale ☐ Small Scale		
Project Scope *(according to UNFCCC sectoral scope numbers for CDM)*	☒	1	Energy Industries (renewable- /non-renewable sources)
	☐	2	Energy distribution
	☐	3	Energy demand
	☐	4	Manufacturing industries
	☐	5	Chemical industry
	☐	6	Construction
	☐	7	Transport
	☐	8	Mining/Mineral production
	☐	9	Metal production
	☐	10	Fugitive emissions from fuels (solid, oil and gas)
	☐	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	☐	12	Solvents use
	☐	13	Waste handling and disposal
	☐	14	Afforestation and Reforestation
	☐	15	Agriculture
Applied Methodology	*ACM0002 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources – v. 12.2.0*		
Technical Area(s)	1.2: Energy generation from renewable energy sources		
Crediting period	☒ Renewable Crediting Period (7 y) ☐ Fixed Crediting Period (10 y)		
Start of crediting period	2014-01-01		

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 Participant
Host party	Brazil	Santa Vitória do Palmar Holding S. A.
		Chuí Holding S. A.
		WayCarbon Soluções Ambientais e Projetos de Carbono Ltda.

2.3 Project Location

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

Table 2-3: Project Location

No.		Project Location
Host Country		Brazil
Region:		State of Rio Grande do Sul
Project location address:		Municipalities of Santa Vitória do Palmar and Chuí
Chuí I	Latitude:	33º39'35".8261 S
	Longitude:	53º23'34".2523 W
Chuí II	Latitude:	33º39'46".3286 S
	Longitude:	53º24'01".7541 W
Chuí IV	Latitude:	33º40'07".2966 S
	Longitude:	53º24'56".7231 W
Chuí V	Latitude:	33º40'17".7945 S
	Longitude:	53º25'24".1914 W
Minuano I	Latitude:	33º43'22".0991 S
	Longitude:	53º24'07".5259 W
Minuano II	Latitude:	33º42'59".6211 S
	Longitude:	53º24'36".6908 W
Verace I	Latitude:	33º29'42".5793 S
	Longitude:	53º16'15".7864 W
Verace II	Latitude:	33º30'20".7380 S
	Longitude:	53º16'51".9279 W
Verace III	Latitude:	33º31'19".7952 S
	Longitude:	53º16'44".2549 W
Verace IV	Latitude:	33º33'07".6087 S
	Longitude:	53º13'34".5595 W
Verace V	Latitude:	33º32'03".3882 S
	Longitude:	53º17'51".0596 W
Verace VI	Latitude:	33º32'35".5107 S
	Longitude:	53º16'36".2414 W
Verace VII	Latitude:	33º34'03".8931 S
	Longitude:	53º14'44".7545 W
Verace VIII	Latitude:	33º33'08".0836 S
	Longitude:	53º18'25".8421 W
Verace IX	Latitude:	33º34'25".1257 S
	Longitude:	53º18'00".6700 W
Verace X	Latitude:	33º35'39".3113 S
	Longitude:	53º15'08".8325 W

2.4 Technical Project Description

The technical key data of the wind generators are provided in tables 2-4 below:

Table 2-4.a: Technical data of wind generator IMPSA IWP-100

Parameter	Unit	Value
Quantity		72
Rated power	MW	2.0
Rotor Diameter	m	100
Swept area	m²	7,854
Generator		Direct-drive permanent magnet (DDPM)

Table 2-4.b: Technical data of wind generator Gamesa G97

Parameter	Unit	Value
Quantity		129
Rated power	MW	2.0
Rotor Diameter	m	97
Swept area	m²	7,390
Generator		Doubly-fed machine

The technical key data of the wind farms are provided in tables 2-5 below:

Table 2-5.a: Technical data of the project activity – Windfarm Chuí I

Parameter	Unit	Value
Quantity of wind generators		12
Model of wind generators		IMPSA IWP-100
Installed capacity	MW	24.0
Plant load factor	%	51.3
Net capacity	MW	12.3

Table 2-5.b: Technical data of the project activity – Windfarm Chuí II

Parameter	Unit	Value
Quantity of wind generators		11
Model of wind generators		IMPSA IWP-100
Installed capacity	MW	22.0
Plant load factor	%	48.3
Net capacity	MW	10.6

Table 2-5.c: Technical data of the project activity – Windfarm Chuí IV

Parameter	Unit	Value
Quantity of wind generators		11
Model of wind generators		IMPSA IWP-100
Installed capacity	MW	22.0
Plant load factor	%	47.7
Net capacity	MW	10.5

Table 2-5.d: Technical data of the project activity – Windfarm Chuí V

Parameter	Unit	Value
Quantity of wind generators		15
Model of wind generators		IMPSA IWP-100
Installed capacity	MW	30.0
Plant load factor	%	50.1
Net capacity	MW	15.0

Table 2-5.e: Technical data of the project activity – Windfarm Minuano I

Parameter	Unit	Value
Quantity of wind generators		11
Model of wind generators		IMPSA IWP-100
Installed capacity	MW	22.0
Plant load factor	%	51.6
Net capacity	MW	11.3

Table 2-5.f: Technical data of the project activity – Windfarm Minuano II

Parameter	Unit	Value
Quantity of wind generators		12
Model of wind generators		IMPSA IWP-100
Installed capacity	MW	24.0
Plant load factor	%	48.9
Net capacity	MW	11.7

Table 2-5.g: Technical data of the project activity – Windfarm Verace I

Parameter	Unit	Value
Quantity of wind generators		10
Model of wind generators		Gamesa G97
Installed capacity	MW	20.0
Plant load factor	%	44.3
Net capacity	MW	8.9

Table 2-5.h: Technical data of the project activity – Windfarm Verace II

Parameter	Unit	Value
Quantity of wind generators		10
Model of wind generators		Gamesa G97
Installed capacity	MW	20.0
Plant load factor	%	43.2
Net capacity	MW	8.6

Table 2-5.i: Technical data of the project activity – Windfarm Verace III

Parameter	Unit	Value
Quantity of wind generators		13
Model of wind generators		Gamesa G97
Installed capacity	MW	26.0
Plant load factor	%	44.3
Net capacity	MW	11.5

Table 2-5.j: Technical data of the project activity – Windfarm Verace IV

Parameter	Unit	Value
Quantity of wind generators		15
Model of wind generators		Gamesa G97
Installed capacity	MW	30.0
Plant load factor	%	45.8
Net capacity	MW	13.7

Table 2-5.k: Technical data of the project activity – Windfarm Verace V

Parameter	Unit	Value
Quantity of wind generators		15
Model of wind generators		Gamesa G97
Installed capacity	MW	30.0
Plant load factor	%	43.2
Net capacity	MW	13.0

Table 2-5.l: Technical data of the project activity – Windfarm Verace VI

Parameter	Unit	Value
Quantity of wind generators		09
Model of wind generators		Gamesa G97
Installed capacity	MW	18.0
Plant load factor	%	43.9
Net capacity	MW	7.9

Table 2-5.m: Technical data of the project activity – Windfarm Verace VII

Parameter	Unit	Value
Quantity of wind generators		15
Model of wind generators		Gamesa G97
Installed capacity	MW	30.0
Plant load factor	%	44.3
Net capacity	MW	13.3

Table 2-5.n: Technical data of the project activity – Windfarm Verace VIII

Parameter	Unit	Value
Quantity of wind generators		13
Model of wind generators		Gamesa G97
Installed capacity	MW	26.0
Plant load factor	%	43.3
Net capacity	MW	11.3

Table 2-5.o: Technical data of the project activity – Windfarm Verace IX

Parameter	Unit	Value
Quantity of wind generators		15
Model of wind generators		Gamesa G97
Installed capacity	MW	30.0
Plant load factor	%	44.0
Net capacity	MW	13.2

Table 2-5.p: Technical data of the project activity – Windfarm Verace X

Parameter	Unit	Value
Quantity of wind generators		14
Model of wind generators		Gamesa G97
Installed capacity	MW	28.0
Plant load factor	%	45.2
Net capacity	MW	12.6

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)
- Desk review of the PDD and supporting documents
- 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	2011-11-29
Submission of PDD for global stakeholder commenting process	2012-01-17
Visit at PP's office (*)	2012-01-30 and 31
Draft reporting finalized	2012-02-03
Final reporting finalized	2012-05-15
Technical review on final reporting finalized	2012-06-26
Final report with LoA assessment	2012-10-26

(*) *as the project consists of a greenfield project, the on site visit was not carried out.*

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 validation 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 validation team, consisting of one team leader and 1 additional team member, as well as the Technical Review personnel, was appointed.

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 [1]	Qualification Status [2]	Scheme competence [3]	Technical competence [4]	Verification competence [5]	Host country Competence	On-site Visit
☒ Mr. ☐ Ms.	Ricardo Lopes	BRTÜV,	TL	LA	☒	1.2	☐	☒	☒
☒ Mr. ☐ Ms.	Sergio Cruz	BRTÜV	TM	A	☒	1.2	☐	☒	☒
☒ Mr. ☐ Ms.	Martin Emilio	TÜV NORD, Germany	TR	LA	☒	1.2	☐	☐	-
☐ Mr. ☒ Ms.	Alexandra Nebel	TÜV NORD, Germany	FA	SA	☒		☐	☐	-

[1] TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

[2] GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

[3] GHG auditor status (at least Assessor)

[4] As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, …)

[5] In case of verification projects

[A] Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

B) No team member

All team members contributed to the review of documents, the assessment of the project activity and to the preparation of this report under the leadership of the team leader.

Technical Experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

Statements of competence 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 are 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 organizes, 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 is described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	***Validation Team Comment***	***Reference***	***Draft Conclusion***	***Final Conclusion***
The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organized in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.	*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.*	*Gives reference to the information source on which the assessment is based on*	*Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.*	*In case a corrective action or a clarification the final assessment at the final validation stage is given.*

Figure 1: Validation protocol table

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

3.6 Review of Documents

The published PDD 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 Site Visit and Follow-up Interviews

The validation team has carried out a site visit 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.

or

Due to the fact that it is a Greenfield project, a site visit was not carried out. All relevant project documentation has been provided in the PP's offices.

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

Interviewed Persons / Entities	Interview topics
Project proponent representatives Project consultant	- Chronological description of the project activity with documents of key steps of the implementation. - Current status of plant design - Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project - Host Government Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Project activity starting date - CER allocation / ownership - Baseline study assumptions - Additionality - Sustainable development issues - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PDD

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 validation 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.

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 summarized**:**

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

Validation topic [1)]	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	-	-	-
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	03	04	-
Duration of the Project / Crediting Period (C)	-	01	-
Environmental impacts (D)	-	01	01
Stakeholder Comments (E)	-	-	-
SUM	**03**	**06**	**01**

[1)] The letters in brackets refer to the validation protocol

Table 4-2: PDD versions used for assessments

Version Nr.	Assessment Round

Version Nr.	Assessment Round
PDD v. 1 (Published)	Findings raised at Draft Report
PDD v. 02	DOE Assessment #1
PDD v. 03 (Final)	Final Corrections

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.

Finding	**CL B1**		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please explain/justify why two financial indicator (IRR) calculations have been carried out for groups of six and ten wind farms as single ones and not individually or differently divided.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Firstly, it is important to acknowledge that the division of Chuí and Santa Vitória do Palmar Windfarm Complex into sixteen different farms lie on fiscal reasons. One of them is the eligibility conditions for the assumed profit regime, a simplified taxation regime that is only applicable to companies with revenues up to R$48,000,000.00/year. Another is a benefit applicable to renewable energy projects with up to 30MW of nominal capacity, to which the Brazilian Federal Government concedes a 50% discount on the Use of Transmission System Tariff (*Tarifa de Uso do Sistema de Transmissão* - TUST), as described in detail in Section B.5, Sub-step 2c of demonstration and assessment of additionality, of the PDD (PDD_ChuiSantaVitoriaPalmar_v02_20120508). Therefore, the division of the project activity into sixteen plants intended to ensure its access to the fiscal benefits mentioned above. It should be noted, as explained elsewhere, that the discount on TUST constitutes an E- policy, and thus it is not considered in the investment analysis presented to demonstrate the additionality of the project activity. Also, the sixteen windfarms can be considered as a complex because they are located in adjacent municipalities and they share physical structures, such as the substations and the transmission lines. Commercial proposals from Schahin Engenharia S.A. (in charge of civil works) and ABB (in charge of substations and transmission lines) made before the 12th		

Finding	CL B1
	Brazilian Auction of New Energy refer to one single Windfarm Complex composed by all the facilities of this project activity and not to sixteen individual plants. If implemented separately for each individual plant, shared structures would dramatically increase the project's CAPEX and would further reduce the financial return of the project. Similarly, costs such as O&M and administrative expenditures present economies of scale. On the other hand, if the option were to develop financial models for each individual farm, the criteria chosen to distribute the costs of shared infrastructure among the plants would be arbitrary and would hardly reflect the reality of the project. Thus, an analysis per plant would not be consistent because the input data of financial models would be based more on rationales than evidences.
DOE Assessment #1 *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.*	There are two complexes with some adjacent wind farms. The division in six and ten plants is due to: - tax considerations, as the Brazilian legislation allows a simplified taxation to companies with revenues up to R$ 48,000,000/year. - specific energy regulations which allow a 50% discount on the TUST for renewable energy projects with up to 30MW of nominal installed capacity. The PPs presented evidences that the feasibility of the implementation of the groups of wind farms and the possibility to respond to energy demand of the market are possible when all wind farms are treated as complexes and this was the reason to perform a unique investment analysis for each group what is deemed correct by the validation team. In addition this analysis is more conservative as some expenses can be dealt as unique, and so, less expensive for each wind farm. **CL is closed**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Finding	CL B2		
Classification	☐ CAR	☒ CL	☐ FAR

Finding	CL B2
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The conditions to apply to the assumed profit regime are not clearly described, as follows: a. applicability per each wind power plant; b. how and why the additional income tax rate of 10% is applied; c. that depreciation, loan rates and any other costs of capital are or are not applied in the analysis because of the assumed profit regime; d. necessary references are missing in the excel.
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	a. applicability per each wind power plant: according to articles 516 to 528 of Income Tax Regulation (Decree 3,000/1999), Law 9,249/1995, Law 9,430/1996 and Law 10,637/2002, companies can apply to the assumed profit regime (which is a simplified income tax regime) as long as their gross revenues are not higher than R$48,000,000.00/year. As presented in the tab 'Revenues per plant' of each investment analysis spreadsheet (FinancialAnalysis_Verace_v.02.xls and FinancialAnalysis_Chui-Minuano_v.02.xls), the projected revenues of each individual plant do not exceed the established limit (the revenues of Chuí V, which are the highest of the sixteen plants, are about R$ 15,900,000.00 in the first year of operation). Hence, all sixteen plants were considered as being eligible to the assumed profit regime. b. how and why the additional income tax rate of 10% is applied: according to the Laws mentioned in item (a) above, it is applied an additional income tax rate of 10% on the portion of the assumed profit that exceeds R$240,000.00/year. As can be noticed in the tab 'Revenues per plant' of both investment analysis spreadsheets, the revenues of all sixteen plants are higher than that limit. Thus, lines 16 and 12 of these tabs (in spreadsheets FinancialAnalysis_Verace_v.02.xls and FinancialAnalysis_Chui-Minuano_v.02.xls, respectively) calculate the additional income tax to be paid by each plant by applying the 10%-aliquot to the portion of assumed profit (i.e., 15% of 8% of gross revenues) that exceeds the established limit.

Finding	CL B2
	c. that depreciation, loan rates and any other costs of capital are or are not applied in the analysis because of the assumed profit regime: as per assumed profit regime, income tax is calculated on an assumed profit (calculated as a percentage of revenues), not on the company's actual profit. Because of that, depreciation does not need to be considered in the model (it should have been considered in case real profit had been calculated). However, loan rates and other financial costs are included in the model because Equity IRR (the financial indicator chosen to demonstrate the project's additionality) takes into account the funding provided by BNDES to the project. d. necessary references are missing in the excel: references to Brazilian Laws that regulate Income Tax are presented in cells F101 to F106 (spreadsheet FinancialAnalysis_Verace_v.02.xls) and in cells F89 to F94 (spreadsheet FinancialAnalysis_Chui-Minuano_v.02.xls) of tab 'Assumptions'.
DOE Assessment #1 *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.*	The applicability of the Assumed Profit Tax regime has been clearly explained by the PPs, with explanations about the gross revenue limit, additional income tax application, depreciation, loan rates and any other costs of capital demonstration. In addition, the necessary references of tax regulations have been included in the excel spreadsheet. **CL is closed**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Finding	CAR B3		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In the financial model spreadsheets, proper reference and rationale is missing for the assumption for ONS fee and CCEE contribution cell (D84). Further, the values of IRR in the PDD are not consistent with		

Finding	CAR B3
	those in the respective financial spreadsheets.
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The value of ONS fee, due to the National Operator of the Electric System (*Operador Nacional do Sistema Elétrico* - ONS) and the CCEE contribution, due to the Electric Energy Commercialization Chamber (Câmara de Comercialização de Energia Elétrica – CCEE) was estimated on investment decision date as being 0.1% of gross revenues. That estimate was made in accordance to the entrepreneur's previous experience and therefore there are no references. In that way, in order to allow for simplification and conservativeness of the analysis, it was decided to exclude that assumption from the model. The values of IRR and sensitivity analysis (breakeven points and +-10% variation of critical assumptions) were not correct in the PDD, indeed. The values have been corrected and are now consistent with the ones presented in the financial spreadsheets (after the exclusion of ONS fee and CCEE contribution, as explained above). Please, see section B.5 in the new version of PDD sent to DOE (PDD_ChuiSantaVitoriaPalmar_v02_20120508).
DOE Assessment #1 *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.*	As there is no available evidence for the assumption for ONS fee and CCEE contribution, the values have been excluded from the financial investment calculations. Further, the value of IRR in the PDD is now consistent with the respective financial spreadsheet and shows the values of 6.30% (Verace) and 6.97% (Chuí/Minuano) instead of 6.25% and 10.16% respectively that were presented before. The calculations are totally correct and the input values are evidenced and all were valid by the time of the investment decision. **CAR is closed**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Finding	CL B4		
Classification	☐ CAR	☒ CL	☐ FAR

Finding	CL B4
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The method of calculation of beta, including reasons for un-levering it and then re-levering again, is not described in detail in the PDD.
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Proper explanation on the method of calculation of beta, including reasons for un-levering and then re-levering it again, was included in section B.5 of the PDD (Sub-step 2b). Besides, the following explanation on the differences between Formulae 1 and 2 has been included in the PDD (as footnote 18) and in the spreadsheet Benchmark_SantaVitoriadoPalmar_Chui_v.02.xlsx (as a comment in tab *Beta*): It should be noted that Formula 2 multiplies unleveraged Beta, obtained in cell K20 of tab *Beta* of the spreadsheet Benchmark_ SantaVitoriadoPalmar_Chui_v.02.xlsx, by the term *(1+D/E)*, which corresponds to the debt-to-equity ratio of the project activity. The percentage of debt considered is 63.5%, which corresponds to the average leverage of renewable energy projects funded by BNDES, according to the BNDES presentation from August 2011 (reference: BNDES_RenewableEnergyProjectsPresentation). Therefore, Formula 2 incorporates to Beta the risk related to the capital structure that will actually be used in the project activity. The reason why the income tax rate has been considered in Formula 1 but not in Formula 2 consists in differences between two different fiscal regimes: Real Profit, applied to companies that compose the BM&FBovespa's Electricity Index (IEE); and Assumed Profit, applied to all sixteen plants of Chuí and Santa Vitória do Palmar Windfarm Complex (as explained in item *Taxes* of *Sub-step 2c. Calculation and comparison of financial indicators* of the PDD). Companies under Real Profit regime pay income taxes based on actual profits earned. Therefore, financial expenses (interest payment and debt amortization) are tax deductible for these companies. In other words, the higher the company's leverage, the smaller the profit on which income tax will be levied (and, as a result, the smaller the payment of taxes). Under Assumed Profit regime, on the other hand, income taxes are calculated over the companies' revenues. Therefore, the payment of financial expenses does not affect these companies' tax base. Hence, the fiscal benefit

Finding	CL B4
	conceded to companies under Real Profit regime does not exist for companies under Assumed Profit regime. In order to make leverage under the two fiscal regimes comparable, the term *(1 - Income Taxes)* was included in Formula 1 (considering a marginal income tax rate of 34% for companies under Real Profit regime). In practical terms, the inclusion of this term is equivalent to a reduction in companies' debt-to-equity ratio with a magnitude equal to the fiscal benefit referred to. When releveraging Beta (Formula 2), this term was not included to reflect the inexistence of this benefit for companies under Assumed Profit regime. This explanation can also be found in page 13 of the scientific paper „Cost of Capital to Small Hydroeletric Power Plants (SHPPs) in the Clean Development Mechanism Context", available at: http://www.abce.org.br/downloads/ingleswacc.PDF.
DOE Assessment #1 *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.*	Explanations about the calculation method of Beta were provided and the way formula 2 was used and its function to incorporate the risk related to the capital structure that will actually be used in the project activity to Beta. In addition, it is explained that the income tax rate has been considered in Formula 1 but not in Formula 2 because of the differences between Real Profit fiscal regime (applied to companies that compose the BM&FBovespa's Electricity Index – IEE) and Assumed Profit fiscal regime (applied to all plants of Chuí/Minuano and Verace wind farm complexes). All information is public and can be cross checked at BM&FBovespa and Securities and Exchange Commission of Brazil (CVM) websites. All companies that form the IEE index apply real profit fiscal regime and the values of the equity/debt ratio can be checked by the available companies' balance sheet. **CL is closed**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Finding	CL B5

Finding	CL B5		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	At the Common Practice Analysis, the justification about why the three projects developed by *Wobben* (wind equipment manufacturer) and also *Palmas* are not similar is not sufficiently clear to justify exclusion from list of similar activities to the project activity.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The Common Practice Analysis was reformulated in order to apply paragraph 47 of the "Tool for the demonstration and assessment of additionality" (version 6.0.0). In this way, the justification of the dissimilarities between the plants above-mentioned and the project activity is not applicable anymore. Please, see the new version of PDD sent to DOE (PDD_ChuiSantaVitoriaPalmar_v02_20120508).		
DOE Assessment #1 *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.*	Paragraph 47 of the "Tool for the demonstration and assessment of additionality" – version 06.0.0 was applied to assess the common practice. Even that the financial analyses have been performed separately per complex (Chuí-Minuano Complex and Verace Complex), the common practice analysis has been treated as one as per conservativeness, since the range is broader. From the 2,497 electricity plants in operation in Brazil, 2,312 were excluded as per the installed capacity [lower than 72.0 MW *(-50% on the installed capacity of Verace complex)* and higher than 603.0 MW *(+50% on the installed capacity of Chuí/Minuano complex)*] and from the remaining 185 plants, 33 are under CDM validation or already registered. Therefore, there are 152 electricity plants in operation in Brazil similar to project activity. So, N_{all} = 152. From those 152 plants, 149 utilize other energy source than wind; and from the remaining 3, 2 are under PROINFA (Brazilian government incentive). So, N_{diff} = 151. Finally, as F = 0.01 (i.e. lower than 0.2) and $N_{all} - N_{diff}$ = 1 (i.e. lower than 3), the proposed project activity is not a common practice within the sector in the applicable geographical area. **CL is closed**		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly		

Finding	CL B5
	☐ Additional action should be taken ☒ The project complies with the requirements

Finding	CAR B6		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section B.7.1, parameter $EF_{grid,CM}$ is missing.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	Parameter $EF_{grid,CM,y}$ was inserted In section B.7.1 of the new version of the PDD. Please, see the new version of PDD sent to DOE (PDD_ChuiSantaVitoriaPalmar_v02_20120508).		
DOE Assessment #1 *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.*	OK, parameter included accordingly in section B.7.1 of PDD version 2. **CAR is closed**		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements		

Finding	CAR B7		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section B.7.1, for parameter $EG_{facility,y}$, the precise location of meters used for monitoring is missing. Further information about the cross check of electricity generation data is not consistent with information given by representatives of PP during site visit.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The electricity generation ($EG_{PJ,y}$) crosschecking was modified in the new version of the PDD. The parameter measured in meters localized in the interconnection point with the Brazilian national grid will be crosschecked with the data provided by the Brazilian Electric Energy Commercialization Chamber (*CCEE – Câmara de Comercialização de Energia Elétrica*). This data is a third party and reliable information, since CCEE is the official Brazilian agency responsible for the activities and operations of the national electricity market. In addition, as mentioned above, the main data of the		

Finding	CAR B7
	electricity generation ($EG_{PJ,y}$) will be obtained by means of the meters located at the interconnection point with the Brazilian national grid (SIN); the total amount dispatched to the SIN monitored by these meters will be prorated between each facility according to the proportional amount of electricity generation measured in the electrical substation for each facility. Please, see sections B.7.1 and B.7.2 in the new version of PDD sent to DOE (PDD_ChuiSantaVitoriaPalmar_v02_20120508).
DOE Assessment #1 *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.*	OK, sections B.7.1 and B.7.2 have been revised in version 2 of PDD and it has now been clarified that location of meters will be in the substation (after tension transformation and respective losses) which will be the delivery point of energy to the SIN. Moreover, data will be cross-checked with information direct from CCEE which is highly reliable. **CAR is closed**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Finding	CL C1		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Starting Date of the project is missing from section C.1.1.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	As discussed in the PDD, the Project Starting Date has not occurred yet for this project activity. During the 12th Brazilian Auction of New Energy (*12º Leilão de Energia Nova - Leilão nº 02/2011*), the wind electricity generation of this project activity has been contracted; nevertheless, the Power Purchase Agreement (PPA) established in the auction do not necessarily commit the entrepreneurs to the wind electricity generation facilities' implementation, since it is possible to sell the PPA to other part yet. During the auction, the entrepreneurs negotiated the costs of the Windfarm Complex implementation and finally dealt the final costs with the equipment suppliers and with the company		

Finding	CL C1
	responsible for implementing the facilities. However, these deals have not been officialized yet (i.e. there is no official contracts that commit entrepreneurs to the equipment suppliers and to the companies responsible for implementing the facilities). The entrepreneurs and the involved parts are drawing up the respective Memorandum of Understandings and contracts; these documents will formalize the financial and technical conditions of the deal made between entrepreneurs and IMPSA, Gamesa and Schahin, related to the implementation of the project activity. The signature of the first of these documents, which will establish financial penalties if entrepreneurs do not follow it, will define the Starting Date of the project activity. Please, see sections B.5 and C.1.1 in the new version of PDD sent to DOE (PDD_ChuiSantaVitoriaPalmar_v02_20120508).
DOE Assessment #1 *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.*	As no events until now comply with the definition of starting date of the project activity as per the Glossary of Terms, the PPs decided to estimate the starting date of the project activity as 2012-06-15 on which they expect to sign the Memorandum of Understanding with their major suppliers (Impsa, Gamesa and Schahin) and that will consist in the first major financial commitment. **CL is closed**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Finding	CL D1		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	In section D.1, it is not explained why environmental license for Minuano was carried out by IBAMA and for the other wind facilities by FEPAM.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	According to the Brazilian Regulation CONAMA no. 237/97 (available at http://www.dnit.gov.br/planejamento-e-pesquisa/coordenacao-geral-de-meio-ambiente/licenciamento-ambiental/conama-237-97.pdf), the Federal environment agency (IBAMA – *Instituto Brasileiro de Meio Ambiente e dos Recursos Naturais Renováveis* –		

Finding	CL D1
	Brazilian Environmental and Renewable Natural Resources Institute) has the responsibility of environmentally license entrepreneurships whose environmental impacts have the potential to overcome the Brazilian boundaries. Since Minuano's facilities are the nearest to Uruguay in the Windfarm Complex, Minuano has to be licensed by IBAMA; the other plants have to be licensed by the Environmental Protection Foundation of the Rio Grande do Sul State (*Fundação Estadual de Proteção Ambiental do Rio Grande do Sul - FEPAM*), which is responsible for environmental licensing in the State level. Please, see the new version of PDD sent to DOE (PDD_ChuiSantaVitoriaPalmar_v02_20120508).
DOE Assessment #1 *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.*	OK, the requested clarification has been included in section D.1 of PDD. **CL is closed**
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic verification ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The project complies with the requirements

Finding	FAR D2		
Classification	☐ CAR	☐ CL	☒ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	At moment of validation it consists of a greenfield project therefore there is no environmental license yet. The operating license issued by the environmental authority shall be requested during the first verification to ensure that the project complies with all environmental requirements of host country.		
Proposed Corrective Action #1 *This section shall be filled by the PP. It shall address the proposed corrective action in details.*	The Operating License will be requested and obtained by the entrepreneurs before project activity commissioning; the license will be made available to DOE during the first verification of the project activity.		
DOE Assessment #1 *The assessment of the proposed corrective action. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.*	OK, proposed action accepted.		

Finding	FAR D2
Conclusion *Tick the appropriate checkbox*	☒ To be checked during the first periodic verification ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The project complies with the requirements

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

At the time of the completion of revision 0 of this report, the LoA of the Brazilian DNA (host country) was pending. For the Brazilian DNA, a positive validation opinion is a prerequisite for the host government approval and thus the LoA cannot be considered at that validation stage.

According to CDM requirements, at the validation stage, a party may or may not have provided its approval by the time of making the PDD public. The approval of the involved parties is required at the time of registration request.

On 2012-10-17, the Brazilian DNA has issued the LoA. The Letter of Approval is in line with all CDM requirements:

- the LoA has been submitted by the Brazilian DNA Interministerial Commission on Global Climate Change;
- Brazil, the host country, has ratified the Kyoto Protocol on August 23rd, 2002;
- it is confirmed in the LoA that the participation is voluntary;
- the LoA confirms that the project contributes to sustainable development of the host country;
- project title and version number are correct.

Project Participants

The involved party and respective PPs are:

- Brazil (host party):
  - Santa Vitória do Palmar Holding S. A.;
  - Chuí Holding S. A.;
  - WayCarbon Soluções Ambientais e Projetos de Carbono Ltda.

The LoA can be issued only with a positive validation opinion.

5.1.2 Contribution to Sustainable Development

As stated at the PDD, the contribution to sustainable development of the project activity will be of four types:

- Local environmental sustainability:
  - the project activity uses renewable energy resources for electricity generation contributing to a reduction of GHG emissions.
- Net workplace generation:
  - the project activity generates employment, especially during its implementation.
- Diversification of the electric mix and energetic security:
  - as the period of abundance of wind resources is coincident with the period of the shortage hydraulic availability in Brazil. So, wind based electricity generation is complementary to hydro based electricity generation contributing to the security of renewable electricity supply throughout the year and reducing the dependence upon fossil fuels sources during the dry season.
- Technological development of the wind electricity generation sector:
  - as this type of project can stimulate similar initiatives in Brazil and encourage the development of modern and more efficient renewable energy units.

The host government approval to the sustainable development will only be confirmed with the LoA issuance which can be requested only with a positive validation opinion.

5.1.3 PDD editorial Aspects

The CDM-PDD template version 3 has been correctly applied and the PDD is filled in compliance with the latest guidance.

5.1.4 Technology to be employed

The description of the project in the PDD is complete and accurate.

The proposed project activity is the implementation of two wind farm complexes constituted by sixteen plants with 402 MW of total installed capacity and an expected annual output of 1,625,744 MWh.

The project activity consists of 72 Impsa IWP-100 turbines of 2.0 MW each (for Chuí and Minuano plants) and 129 Gamesa G97 turbines of 2.0 MW each (for Verace plants).

The complexes will be interconnected to Santa Vitória do Palmar Substation where the energy will be delivered to the National Interconnected Grid.

The employed technology is environmentally safe and sound as well as state of the art, manufactured by leading suppliers, Impsa and Gamesa.

5.1.5 Small Scale Projects

Not applicable as it is a large scale project.

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The project applies the baseline and monitoring methodology ACM0002 – "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" – version 12.2.0 and methodological tools: "Tool to calculate the emission factor for an electricity system" – version 02.2.1; "Tool for demonstration and assessment of additionality" – version 06.0.0. They are all approved, valid and are derived from the UNFCCC CDM website.

All applicability conditions of ACM0002 version 12.2.0 are met and the project activity is in line with all requirements and stipulations mentioned in all sections of the applied methodologies.

No significant emissions are expected from the project or from leakage.

5.2.2 Project Boundary

The project boundaries (geographic and also related to GHG sources and gases) are correctly given in the PDD as described in section B.3 of the PDD. The methodology does not allow for a choice of which GHG sources / sinks are included, and there are no other sources which are impacted by the project which are not addressed by the applied methodology.

5.2.3 Baseline Identification

The description of the baseline identification in the PDD is transparent and verifiable. According to ACM0002 version 12.2.0, the baseline scenario for the implementation of a new grid-connected renewable power plant/unit (in this case wind) is the following:

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

5.2.4 Calculation of GHG Emission Reductions

The calculation of ERs is done as per the applied methodology. All data not to be monitored were correctly applied and values were cross-checked with public available data or supporting documents and are thus deemed precise and conservative. The values for the monitoring parameters are plausible. The estimation of emission reductions is deemed plausible and conservative.

The emission factor is calculated by the Brazilian DNA using dispatch data and ex-post option for combined margin in accordance with the "Tool to calculate the emission factor for an electricity system".

5.2.5 Additionality Determination

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

The management decision was on 2011-08-17 which was the day, when the bid price was offered establishing the acceptance of all conditions and price to operate the wind farm and generate energy.

As no events until now comply with the definition of starting date of the project activity as per the Glossary of Terms as they do not consist in a major financial commitment, the starting date of the project activity is estimated to happen on 2012-06-15 which is the day when the MoUs with wind turbine suppliers (Impsa and Gamesa) and construction contractor (Schahin) are estimated to be signed.

So, the starting date of the project activity is after August 2nd, 2008 and the notifications to the Brazilian DNA and UNFCCC were sent on 2012-01-06, which is before the starting date of the project activity and in accordance with EB49, Annex 22.

A timeline of relevant milestones has been included at section B.5 of the PDD.

Application of methodology / methodological tools

The additionality was justified in section B.5 of the PDD in accordance with the requirements of the "Tool for the demonstration and assessment of additionality – version 06.0.0", following its steps.

Alternatives

The only considered alternatives are the continuity of the current situation and the proposed project activity not undertaken as a CDM project activity.

No other alternative has been considered as according to Para 105 of the VVM, if the approved methodology prescribes the baseline scenario, no further analysis on alternatives is required.

Investment analysis

It was demonstrated at the investment analysis that the project activity is not the most attractive alternative for the PPs.

The latest version of the Guidelines on the Assessment of Investment Analysis (EB62 Annex 5) was applied in the assessment and the calculation approach is correct. All parameters are assessed to be plausible and were cross-checked with documental evidence or publicly available sources.

There are two complexes of ten and six wind farms each. A separate financial analysis per complex has been carried out. The division in ten and six plants is due to tax considerations (simplified tax regime) and energy regulations benefits (50% discount on the TUST), but a single financial analysis per complex shows a more conservative approach (compared to financial analysis applied to each individual wind farm) due to the economy of scale which shows the real scenario, where implementation of the ten and six wind farms and the possibility to respond to energy demand of the market are possible when all wind farms are treated as complexes. For further information, refer to CL B1 in Section 4 of this Report.

The calculation approach is correct and all assessed parameters are plausible.

All parameters used for the financial analysis were valid at the time of the management decision.

In addition, sensitivity analyses with a variation from -10% to +10% performed with the following items: gross revenue, capital expenditures and operational expenditures for each complex were done and continue to give a lower IRR than the benchmark rate.

The chosen benchmark for the Equity IRR (Cost of Equity) was deemed appropriate by the validation team and in accordance with the “Guidelines on the Assessment of Investment Analysis” (Version 05), paragraph 12: “Required/expected returns on equity are appropriate benchmarks for equity IRR”. The Cost of Equity is calculated according to the Capital Asset Pricing Model with public and consolidated available information as input data.

For a detailed assessment please see check list section B.5 and Table A-3, Annex 3.

Barrier analysis

Not applicable as the barrier analysis was not chosen by the project participant.

Common practice analysis

The geographical region that was considered for the analysis is the national (Brazil) scenario which is reasonable as wind farms represent 1.26% of the total amount of generated electricity in Brazil and the energy sector rules are the same for the whole country. There were 73 wind farms in operation in Brazil on 2012-03-14.

Paragraph 47 of the “Tool for the demonstration and assessment of additionality” – version 06.0.0 was applied to assess the common practice.

Even that the financial analyses have been performed separately per complex (Chuí-Minuano Complex and Verace Complex), the common practice analysis has been treated as one as per conservativeness, since the range is broader.

From the 2,497 electricity plants in operation in Brazil, 2,312 were excluded as per the installed capacity [lower than 72.0 MW *(-50% on the installed capacity of Verace complex)* and higher than 603.0 MW *(+50% on the installed capacity of Chuí/Minuano complex)*] and from the remaining 185 plants, 33 are under CDM validation or already registered.

Therefore, there are 152 electricity plants in operation in Brazil similar to project activity. So, N_{all} = 152.

From those 152 plants, 149 utilize other energy source than wind; and from the remaining 3, 2 are under PROINFA (Brazilian government incentive). So, N_{diff} = 151.

Finally, as F = 0.01 (i.e. lower than 0.2) and $N_{all} - N_{diff}$ = 1 (i.e. lower than 3), the proposed project activity is not a common practice within the sector in the applicable geographical area.

This demonstrates that project activity is not the common or prevailing practice.

Summary

As described in the PDD and assessed in detail in the Annexes below, the additionality demonstration is based on the investment analysis. The project activity is not financially attractive as its IRR is lower than the chosen benchmark (Cost of Equity).

In addition, the project activity is not common practice in Brazil.

5.2.6 Monitoring Methodology

The monitoring plan in the PDD is in compliance with the applied monitoring methodology ACM0002 – version 12.2.0 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 the monitoring methodology ACM0002 – version 12.2.0. The monitoring arrangements were assessed by the validation team and can be implemented and are feasible within the project design. For details see section B.6 of the Annex below.

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 renewable seven years crediting period was unambiguously given in section C.2.2 of the PDD and the corresponding calculation spreadsheet.

The crediting period starting date is 2014-01-01. After considering the implementation plan of this project, the defined starting date is deemed as appropriate.

5.2.10 Environmental Impacts

Simplified Environmental Reports (RAS) were properly carried out, which were reviewed by the validation team.

They were submitted to the respective responsible agencies for their analyses and approval before the issuance of environmental preliminary licenses, according to the Brazilian legislation. So, the RAS of Chuí and Verace wind farms were submitted to FEPAM (Environmental Agency of the State of Rio Grande do Sul) and the RAS of Minuano wind farms was submitted to IBAMA (Institute of the Environment and Renewable Natural Resources of Brazil), which has the responsibility to analyze the environmental license of entrepreneurships which have the potential of environmental transboundary impacts as Minuano plants, since they are close to the Uruguayan border.

No significant adverse impacts are envisaged for this project activity and the mitigatory measures, as stated at the PDD, will be performed in accordance with the activities asked at the final environmental license.

5.2.11 Comments by Local Stakeholders

Relevant local stakeholders have been invited to comment the project activity, as correctly described in section E of the PDD and being in line with host country's DNA rules.

The only comments received were from the Federal State Attorney for Public Interest saying that could not make any comment about the project and a congratulations email from the Municipal Secretary of the Environment of Chuí.

As the comments were neutral and/or positive, no actions have been developed by the PPs.

6 VALIDATION OPINION

WayCarbon Soluções Ambientais e Projetos de Carbono Ltda. has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Grid connected electricity generation from renewable source: Windfarm Complex Santa Vitória do Palmar and Chuí" 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

In the course of the pre-validation 03 Corrective Action Requests (CARs) and 06 Clarification Requests (CLs) were raised and successfully closed. In addition, 01 Forward Action Request (FAR) was raised and shall be checked during the first verification.

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 fulfillment of the stated criteria.

In detail the conclusions can be summarized as follows:

- The project is in line with all relevant host country criteria (Brazil) and all relevant UNFCCC requirements for CDM. At the time of the completion of the validation, the LoA was pending. For the Brazilian DNA, a positive validation opinion is a prerequisite for the host government approval and thus the LoA could not be considered at rev. 0 validation stage.

  The LoA has been issued on 2012-10-17. Changes of this revision 0.1 are only made to applicable UNFCCC requirements (team competence) and LoA assessment and not to the project activity content.
- 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 4,484,942 tCO_2e are most likely to be achieved within the (1st renewable) crediting period.

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.

São Paulo, 2012-10-26

Ricardo Lopes

TÜV NORD JI/CDM CP

Validation Team Leader

Essen, 2012-10-26

Alexandra Nebel

TÜV NORD JI/CDM CP

Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/BENCH/	Benchmark calculation spreadsheet
/EIA/	RAS (Simplified Environmental Report): - Windfarm Complex Chuí – elaborated by Maia Consultoria Ambiental – 2008 - Windfarm Minuano – elaborated by Maia Consultoria Ambiental – 2009 - Windfarm Complex Santa Vitória do Palmar – elaborated by Maia Consultoria Ambiental – 2008

/FD/	Financial Data – general:
	- Proposal of Supply of Wind Generators (Chuí and Minuano) – Impsa Wind – 2011-08-11
	- Renewed Proposal of Supply of Wind Generators (Chuí and Minuano) – Impsa Wind – 2011-08-14
	- Proposal of Extended Warrant and O&M for five years for the Wind Generators (Chuí and Minuano) – Impsa Wind – 2011-08-16
	- Proposal of discount for the Supply of Wind Generators and O&M (Chuí and Minuano) – Impsa Wind – 2011-08-17
	- Proposal of the electrical implementation – BRPSS-11-092_Rev.5 – ABB – 2011-08-16
	- Proposal of Supply of Wind Generators (Verace) – SC-0007/11-R11-BO – Gamesa – 2011-08-17
	- Proposal for Infrastructure implementation – SESA-COM-37/2011 – Schahin – 2011-08-17
	- Renewal of Proposal for Infrastructure implementation and Formalization of new agreements – SESA-COM-38/2011 – Schahin – 2011-08-19
	- Land lease contracts:
	  ○ Chuí I: 08A/2008 and 110A/2008 – 2008-05-12
	  ○ Chuí II: 07A/2008 and 10A/2008 – 2008-05-12
	  ○ Chuí IV: 09A/2009 – 2009-03-02
	  ○ Chuí V: 09A/2009 – 2009-03-02
	  ○ Minuano I: 02A/2008 – 2008-05-09
	  ○ Minuano II: 02A/2008 – 2008-05-09

Reference	Document
	◦ Verace I: B16/2009 – 2009-01-18 ◦ Verace II: B10/2009 and B14/2009 – 2009-01-18 and 2009-02-18 (respectively) ◦ Verace III: B10/2009 and B12/2009 – 2009-01-18 and 2009-01-29 (respectively) ◦ Verace IV: B12/2009 – 2009-01-29 ◦ Verace V: 01A/2008 – 2008-04-22 ◦ Verace VI: B11/2009 and B12/2009 – 2009-01-19 and 2009-01-29 (respectively) ◦ Verace VII: B03/2008 – 2008-12-08 ◦ Verace VIII: B01/2008, B05/2008, B08/2008, B11/2009 and B13/2009 – 2008-12-23, 2008-12-23, 2008--12-23, 2009-01-19 and 2009-02-18 (respectively) ◦ Verace IX: B04/2008, B05/2008, B06/2008, B07/2008 and B15/2009 – 2008-12-23, 2008-12-23, 2008-12-23, 2008-12-23 and 2009-05-29 (respectively) ◦ Verace X: B08/2008 – 2008-12-23
/GC/	Geographical Coordinates: - EPE (Energetic Research Company) data sheets issued on 2011-04-17 - ProGrid_0147_SIRGA_Lat_Long files
/IRR/	IRR calculation sheet
/LOA/	Letter of Approval
/MOC/	Modalities of Communication
/OL/	Licenses: - Chuí (wind farms): ◦ Preliminary License # 1643 / 2008-DL – issued by FEPAM on 2008-11-21 – Valid until 2010-11-20 ◦ Preliminary License # 127 / 2012-DL – issued by FEPAM on 2012-01-23 – Valid until 2014-01-22 - Minuano (wind farms): ◦ Preliminary License # 355/2010 – issued by IBAMA on 2010-06-29 – Valid until 2012-06-28

Reference	Document

	- Verace (wind farms):
	  ○ Preliminary License # 201 / 2010-DL – issued by FEPAM on 2010-02-25 – Valid until 2011-02-02
	  ○ Installation License # 314 / 2011-DL – issued by FEPAM on 2011-03-16 – Valid until 2016-03-15

/PDD/	Project Design Document named "Grid connected electricity generation from renewable source: Windfarm Complex Santa Vitória do Palmar and Chuí" - version 01 (2012-01-10) hosted from 2012-01-17 to 2012-02-15 - version 02 (2012-05-08) - version 03 (2012-06-22)

/PLF/	Plant Load Factor:
	- Chuí and Minuano (wind farms):
	  ○ Technical Report Layout and Energy Generation Estimation – MegaJoule – doc. 11MJD158 (with Impsa wind generators) – 2011-08-16
	  ○ Technical Report – Certification of wind measurement and energy production Wind Complex Minuano-Chui – 2011.003A-PAMPA – rev. A (with Gamesa wind generators) – Inova Energy – 2011-04-13
	- Verace (wind farms):
	  ○ Technical Report – Certification of wind measurement and energy production Wind Complex Verace – 2011.002A-PAMPA – rev. A (with Gamesa wind generators) – Inova Energy – 2011-04-13

/PSD/	Evidences of project starting date: - Contracts with the project consultant (for each plant) – 2011-11-17 - Prior Consideration CDM Form – 2012-01-06 - Email to UNFCCC – 2012-01-06 - Letter to DNA – Prior Consideration Form – 2012-01-06 - Email from UNFCCC – Prior Consideration Form – 2012-01-09 - Contract 11CDMBR110848 between TÜV NORD CERT GmbH and WayCarbon Soluções Ambientais e Projetos de Carbono Ltda. – 2011-11-29
/SHCP/	Stakeholder consultation process evidences: - Invitation letters - Confirmations of Receipt – Brazilian Post

Reference	Document
/TD/	- Gamesa wind generator G9X-2.0MW – Technical Specifications - Impsa IWP-100 – Technical Specifications – 9110-00-25-MD8802 – July 2011
/XLS/	Emissions reduction calculation spreadsheet

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM002/	ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources – version 12.2.0
/AUCTION/	- Edict of the Auction 02/2011– 12th Auction of New Energy – ANEEL - Model of the Contract for the Commercialization of Energy – PPA – Annex II of the Edict of the Auction 02/2011– ANEEL - Homologation Resolution # 1179 – Auction Edict 02/2011 – 2011-07-18 - Print screen of auction 02/2011 results – CCEE website
/BNDES/	- Presentation: The BNDES and the Renewable Energies – BNDES – November 2010 - Presentation for funding Renewable Energy Projects – BNDES – 2011-08-15 - Manual of Long Term Index Rate (TJLP) – BNDES
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/EL/	Environmental Legislation: - CONAMA's Resolution nº 279/2001 - Federal Law 380/2008
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM
/GT/	Glossary of CDM Terms
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000

Reference	Document
/IPPC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/LEGIS/	Financial Data – legislation/rules from official sources: - Law # 9249 – Rules of CSLL and Additional Income Tax – 1995-12-26 - Law # 9430 – Rules of CSLL – 1996-12-27 - Decree # 2410 – Rules of TFSEE – 1997-11-28 - Law # 10438 – Rules of TUST – 2002-04-26 - Law # 10637 – Rules of PIS and PASEP – 2002-12-30 - Law # 10762 – Rules of TUST – 2003-11-11 - Law # 10833 – Rules of COFINS – 2003-12-29 - Normative Resolution # 77 – Reduction of the Tariff of the Use of the Transmission System – ANEEL – 2004-08-18 - Normative Instruction # 247 – Federal Revenue Bureau of Brazil – Rules of PIS, PASEP and COFINS – 2002-11-21, altered by Normative Instruction #464 on 2004-10-21 - Law # 11488 – Rules of REIDI – 2007-06-15 - Manual of Asset Control of Electric Sector – Annex to ANEEL resolution 367/2009, rev. 1 (2009-06-02) – ANEEL – 2009-09-11 - Dispatch # 4080 – Rules of TFSEE – ANEEL – 2010-12-27 - Dispatch # 360 – TFSEE – ANEEL – 2011-02-04 - Homologation Resolution # 1179 – Auction Edict 02/2011 – ANEEL – 2011-07-18 - Presentation for funding Renewable Energy Projects – BNDES – 2011-08-15 - Print screen of auction 02/2011 results – CCEE website - Manual of Long Term Index Rate (TJLP) – BNDES
/LIFE/	Manual of Asset Control of Electric Sector – Annex to ANEEL resolution 367/2009, rev. 1 (2009-06-02) – ANEEL – 2009-09-11
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/MT/	Methodological Tools: - Tool to calculate the emission factor for an electricity system – version 02.2.1

Reference	Document
	- Tool for demonstration and assessment of additionality – version 06.0.0
/PDD-T/	PDD Template – version 3
/RENOVA/	Renova Energy Report – 2011
/VVM/	UNFCCC Validation and Verification Manual (Version 1.2 as per EB 55)

Table 7-3: Websites used

Reference	Link	Organization
/aneel/	http://www.aneel.gov.br/	Brazilian Electricity Regulatory Agency
/bcb/	http://www.bcb.gov.br	Central Bank of Brazil
/bmfbovespa/	http://www.bmfbovespa.com.br/shared/IframeHotSiteBarraCanal.aspx?altura=900&idioma=pt-br&url=www.bmfbovespa.com.br/informe/default.asp	BM&FBovespa
/bndes/	http://www.bndes.gov.br/SiteBNDES/bndes/bndes_pt/Institucional/Apoio_Financeiro/Custos_Financeiros/Taxa_de_Juros_de_Longo_Prazo_TJLP/index.html http://www.bndes.gov.br/SiteBNDES/bndes/bndes_pt/Institucional/Apoio_Financeiro/Produtos/FINEM/energias_alternativas.html	BNDES – National Bank for Social Economic Development
/ccee/	http://www.ccee.org.br/ http://www.ccee.org.br/cceeinterdsm/v/index.jsp?contentType=RESULTADO_LEILAO&vgnext	Chamber of Electric Energy Commerce 12th Auction of New Energy Results

Reference	Link	Organization
	oid=9cea4927887d1310VgnVCM1000005e01010aRCRD&qryRESULTADO-LEILAO-CD-RESULTADO-LEILAO=ad9c96ff71dd1310VgnVCM1000005e01010a____&x=9&y=2	
/conama/	http://www.mma.gov.br/port/conama/	National Environmental Council
/dna/	http://www.mct.gov.br http://www.mct.gov.br/index.php/content/view/74689.html	DNA of Brazil Published Emission Factor of the SIN
/eletrobras/	http://www.eletrobras.com/elb/main.asp	National Electric Utility Company (State Owned)
/eletrosul/	http://www.eletrosul.gov.br/home/index.php	Eletrosul Centrais Elétricas S. A. (State Owned)
/epe/	http://www.epe.gov.br	Energetic Research Enterprise (National Energy Balance)
/fazenda/	www.receita.fazenda.gov.br http://www.tesouro.fazenda.gov.br/tesouro_direto/historico.asp http://www.receita.fazenda.gov.br/Aliquotas/ContribPj.htm	Federal Revenue Bureau of Brazil
/fepam/	http://www.fepam.rs.gov.br/	Environmental Agency of the State of Rio Grande do Sul
/gamesa/	http://www.gamesacorp.com/es/	Gamesa
/ibama/	http://www.ibama.gov.br/	Institute of the Environment and Renewable Natural Resources of Brazil

Reference	Link	Organization
/impsa/	http://www.impsa.com/pt/SitePages/IMPSA.aspx	Impsa Wind
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/ipea/	www.ipeadata.gov.br/	Ipeadata
/ons/	http://www.ons.org.br/home/ http://www.ons.org.br/historico/geracao_energia.aspx	National Operator of the Electric System Historic Generation Data
/riobravo/	http://www.riobravo.com.br	Rio Bravo
/sema/	http://www.sema.rs.gov.br/	Secretary of the Environment of the State of Rio Grande do Sul
/unep/	http://cdmpipeline.org/	UNEP RISO CDM Pipeline
/unfccc/	http://cdm.unfccc.int	UNFCCC
/way/	http://www.waycarbon.com/ http://www.munduscarbo.com/projetos.htm	WayCarbon

Table 7-4: List of interviewed persons

Reference	MoI[1]		Name	Organization / Function
/IM01/	V	☒ Mr. ☐ Ms	José Renato Vieira	Eólicas do Sul* / Technical Director
/IM01/	V	☒ Mr. ☐ Ms	Estéfano Pontes de Oliveira	Eólicas do Sul* / Implementation Manager

Reference	MoI[1]		Name	Organization / Function
/IM02/	V	☒ Mr. ☐ Ms	Bruno Marques de Moraes	Eólicas do Sul – Rio Bravo* / Analyst
/IM03/	V	☐ Mr. ☒ Ms.	Luísa Guimarães Krettli	WayCarbon / Consultant
/IM03/	V	☒ Mr. ☐ Ms.	Fabio Weikert Bicalho	WayCarbon / Consultant

[1)] Means of Interview: (**T**elephone, **E**-Mail, **V**isit)

* Shareholders of Santa Vitória do Palmar Holding S. A. and Chuí Holding S. A.

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.**
A. General Description of Project Activity				
A.1. Approval *The written approval of the parties involved is a mandatory requirement*				
A.1.1. Has the project provided written approvals of all parties involved? (EB 55 Annex 1, § 44) *Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.* *Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA*	*Description:* Brazil is the host party. 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. For the Brazilian DNA, a positive DOE opinion is necessary prior to the request of the LoA. *Justification of evidences:* DNA rules have been checked. *Conclusion:* The Brazilian LoA will be requested only if the	/dna/	OK	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.
	project receives a positive opinion.			
A.1.2. Are the approvals issued from orgainsations listed as DNAs on the UNFCCC CDM website? (EB 55 Annex 1, §§ 44, 47, 48, 49 (b), 49 (c), 53) *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.*	*See comments at A.1.1 above.*	/dna/	OK	OK
A.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol? (EB 55 Annex 1, § 45(a))	*Description:* Brazil, the host country, has ratified the Kyoto Protocol on 23rd August 2002. The Brazilian DNA assigned for CDM is the "Interministerial Commission on Global Climate Change". Nevertheless, as said above, a positive DOE opinion is necessary prior to the request of the LoA. *Justification of evidences:* Evidenced at UNFCCC website. *Conclusion: See comments at A.1.1 above.*	/unfccc/	OK	OK
A.1.4. Do the written approvals confirm that the participation is voluntary? (EB 55 Annex 1, § 45(b))	*See comments at A.1.1 above.*	/dna/	OK	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.
A.1.5. Does the written approval from the host country confirm7 that the project contributes to the sustainable development in the country? (EB 55 Annex 1, § 45(c))	*See comments at A.1.1 above.*	/dna/	OK	OK
A.1.6. Do the written approvals refer to the precise project title in the PDD submitted for registration or an additional specification of the project activity, e.g. PDD version number? (EB 55 Annex 1, §§ 45(d), 50)	*See comments at A.1.1 above.*	/dna/	OK	OK
A.1.7. Are the written approvals unconditional with regard to A.1.3 to A.1.6? (EB 55 Annex 1, § 46)	*See comments at A.1.1 above.*	/dna/	OK	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 55 Annex 1, § 51)	*Description:* Yes, as stated at section A.3 and in Annex 1, the project participants are: • Santa Vitória do Palmar Holding S. A.; • Chuí Holding S. A.; • WayCarbon Soluções Ambientais e Projetos de Carbono Ltda. *Justification of evidences:* Both sections are consistent.	/PDD/	OK	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.**
	Conclusion: The information regarding project participants is consistent.			
A.1.9. Are all project participants listed in the PDD approved at least by one Party involved? (EB 55 Annex 1, § 51) *Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.* *Describe the means of validation employed to draw this conclusion.*	*See comments at A.1.1 above.*	/dna/	OK	OK
A.1.10. Are any other project participants approved but not listed in the PDD? (EB 55 Annex 1, § 52)	*Not applicable as there is no other project participant.*	/PDD/	N/A	N/A
A.1.11. Does the DOE have a direct contractual relationship with the PP? (EB 55 Annex 1, § 51; EB 50 Annex 48, §§ 7–9) *Check whether the PPs listed in the published PDD are still listed in the PDD going to be submitted to request for registration.*	*Description:* There is a signed proposal for carrying out the validation CDM Project "Grid connected electricity generation from renewable source: Windfarm Complex Santa Vitória do Palmar and Chuí" – # 11CDMBR110848 – between TÜV NORD CERT GmbH and WayCarbon Soluções Ambientais e Projetos de Carbono Ltda. on 2011-11-29, which are PPs to the project activity. *Justification of evidences:* It is a valid contract between the DOE and PPs. *Conclusion:* Yes, there is a signed contract between the DOE and PPs.	/PSD/ /PDD/	OK	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.
A.2. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*				
A.2.1. Has the host country confirmed that the project assists it in achieving sustainable development? (EB 55 Annex 1, §§ 125–127) *Contains 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.*	*See comments at A.1.1 above.*	/dna/	OK	OK
A.2.2. Will the project create other environmental or social benefits than GHG emission reductions? (EB 55 Annex 1, §§ 125–127) *Describe the other positive aspects not related to GHG emission reduction on the environment.*	*Description:* The view of the project participants on the contribution of the project activity towards sustainable development is briefly described in section A.2. Besides GHG reduction, the project will: a. produce renewable electricity from low environmental impact wind power plants; b. increase job opportunities (especially during its implementation); c. diversify the electric generation mix which will increase the generation security, as the season of winds abundance is coincident with the shortage of	/PDD/ /IM01/ /IM02/ /IM03/	OK	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.
	hydraulic availability; and d. contribute to technological learning and development. *Justification of evidences:* The project was reviewed in detail, the sites where the wind farms are located are known by the validation team and operational and managerial staff was interviewed. *Conclusion:* The project creates other social-environmental benefits than GHG emission reductions.			
A.3. PDD editorial aspects *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.*				
A.3.1. Has the latest version of the PDD form been applied? (EB 55 Annex 1, § 55)	*Description:* Yes, it has been used the version 3 of CDM-PDD. No deviations thereof have been observed. *Justification of evidences:* The website if the UNFCCC was checked. *Conclusion:* The latest PDD template has been used.	/unfccc/ /PDD-T/	OK	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.
A.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (EB 55 Annex 1, §§ 56–57)	*Description:* The PDD has been filled in accordance with the PDD guidelines. *Justification of evidences:* The PDD has been checked by the validation team. *Conclusion:* The PDD has been dully filled in accordance with the latest guidance.	/PDD/ /unfccc/ /GCP/	OK	OK
A.4. Technology to be employed *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.*				
A.4.1. Does the PDD contain a clear, accurate and complete project description? (EB 55 Annex 1, §§ 58–59, 64) *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.* *Pl. consider esp.* chapters *A.2, A.4.2 and A.4.3 (in case of LSC PDD) for assessment.* *§64 (a) Describe the process undertaken to validate the accuracy and completeness of the project description.*	*Description:* Yes, a comprehensive project description is given in sections A.2 and A.4.3 of the PDD. The project description is compatible with the type and category of the project activity as described in item A.4.2 of the PDD. *Justification of evidences:* For the assessment the validation team has: a) reviewed the PDD in detail; b) carried out interviews with technical and operational personnel of project participants and the project consultants. *Conclusion:* The PDD presents an accurate and clear and complete description of the project activity.	/PDD/ /aneel/ /IM01/ /IM02/ /TD/	OK	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.
§64 (b) Contain the DOE's opinion on the accuracy and completeness of the project description.				
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?	*Description:* Yes, it seems that the project will be implemented according to the project description. *Justification of evidences:* As a greenfield project, it seems that the project will be implemented according to the project description. *Conclusion:* It seems that the project will be implemented according to the project description.	/PDD/ /IM01/ /IM02/ /IM03/	OK	OK
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 55 Annex 1, §§ 63–64) *Describe the steps taken to validate this issue.*	*Not applicable, since the project does not involve alteration of the existing installation or process. It is a greenfield project.*	/PDD/	N/A	N/A
A.4.4. Does the project design engineering reflect current good practices? *Consider the equipment specifications, literature (e.g. EU BREF papers) and professional experiences. Describe the process undertaken to assess the engineering.*	*Description:* Yes, the project consists of sixteen new wind power plants which will generate energy using wind power. In Section A.4.2, a description of the technology is provided. The technology of the wind turbines is provided by two of the world leading suppliers (Impsa and Gamesa) and the project design is environmentally safe and sound. *Justification of evidences:* The validation team could verify the	/PDD/ /IM01/ /IM02/ /IM03/ /TD/ /EIA/ /impsa/	OK	OK

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	information above by reviewing technical data of the turbine-generators/TD/ and the project lay-out as well as the Simplified Environmental Report/EIA/ prepared by a third party as part of the environmental licensing process. *Conclusion:* The project design reflects current good practices.	/gamesa/		
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? *Describe the process undertaken to assess the state of the art technology.*	*Description:* Yes, the turbines for 6 plants will be provided by Impsa and for the other 10 plants will be provided by Gamesa, which are two of the leading manufacturers of wind technology worldwide. In addition, according to the PDD, at least 60% of the technology employed in the project activity will be provided by the host country (Brazil), in accordance with the requirements of BNDES, the loan agent of the project. *Justification of evidences:* The validation team could verify the information above by reviewing technical data of the turbine-generators/TD/ and the project lay-out and interviewing project manager of the project and representatives of project participants. *Conclusion:* The project design uses state of the art technology and part of the technology will be from the host country.	/PDD/ /TD/ /IM01/ /IM02/ /impsa/ /gamesa/	OK	OK
A.4.6. Does the project make provisions for meeting training and maintenance needs? *Describe the process undertaken to assess the maintenance*	*Description:* Yes, the proposals for supplying the turbines also include a maintenance plan.	/PDD/ /IM01/	OK	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.
and training needs.	There are provisions for training procedures in section B.7.2. The project participants have experience in implementation and operation of power plants with renewable sources. *Justification of evidences:* Described in section A.4.3 and B.7.2 of PDD and confirmed by interviews with representatives of PPs. *Conclusion:* There are provisions for training and maintenance.			
A.5. Small scale project activity *It is assessed whether the project qualifies as small-scale CDM project activity*				
A.5.1. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II? (EB 55 Annex 1, §§ 135–136 (a))	*The project does not qualify as small-scale CDM project activity.*	/PDD/	N/A	N/A
A.5.2. Does the project apply one of the approved small scale categories and any methodology and tool referred therein? (EB 55 Annex 1, § 136 (b)) *Check, if applicable the expiry dates of the applied*	*The project does not qualify as small-scale CDM project activity.*	/PDD/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
methodology. Further, take into consideration the general guidance to the methodologies[1], which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.				
A.5.3. Is the small scale project activity not a debundled component of a larger project activity? (EB 55 Annex 1, § 136 (c)) *Describe the steps taken to validate this issue. PI refer to the Compendium of guidance on debundling (EB 54, Annex 13).*	*The project does not qualify as small-scale CDM project activity.*	/PDD/	N/A	N/A
A.5.4. Is an assessment of the environmental impacts of the proposed SSC CDM project activity required by the host Party? (EB 55 Annex 1, § 136 (d))	*The project does not qualify as small-scale CDM project activity.*	/PDD/	N/A	N/A
B. Project Baseline, Additionality and Monitoring Plan				
B.1. Application of the Methodology				
B.1.1. Does the project apply an approved and applicable CDM methodology and a valid	*Description:* Yes, the project activity applies the approved methodology ACM0002 version 12.2.0.	/PDD/ /ACM002/	OK	OK

[1] 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.
version thereof? (EB 55 Annex 1, § 65) *Describe the steps taken to validate this issue.*	*Justification of evidences:* 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 (http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html) was visited. *Conclusion:* The project applies an approved and applicable version of a CDM methodology	/unfccc/		
B.1.2. Is the applied CDM methodology identical with the version available on the UNFCCC website? (EB 55 Annex 1, §§ 65, 70) *Describe the steps taken to validate this issue.*	*Description:* The methodology applied by the PPs follows stipulations of the version available on UNFCCC website. *Justification of evidences:* The PDD was reviewed against the stipulations of the methodology. *Conclusion:* The stipulations of the published version have been followed.	/PDD/ /ACM002/ /unfccc/	OK	OK
B.1.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled? (EB 55 Annex 1, §§ 66(a)–(b), 68, 71, 76) *Describe for each applicability criterion listed in the selected approved methodology the steps taken to assess the information contained in the PDD.*	*Description:* In order to assess the applicability of the project, the PDD was reviewed and the applicability determination of the PDD was counter checked against the criteria given in the applicability section of the methodology. The information in the PDD was checked to prove that such information is valid and reflects the reality of the project. *Justification of evidences:* The methodology is applicable under the following conditions: **• For grid-connected renewable power generation project activities that (a) install a new power plant at a site where**	/PDD/ /ACM002/ /unfccc/	OK	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.
	no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s). The project activity fits option (a), as it consists of the implementation of a new wind power plant/unit. **• The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;** The project activity is the installation of a new wind power plant/unit. **• In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter $EG_{PJ,y}$): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference**			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	period and the implementation of the project activity; Not applicable to the project activity as it consists of a new wind power plant. **• In case of hydro power plants, one of the following conditions must apply:** • **The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or** Not applicable to the project activity. • **The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m2; or o The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m^2.** Not applicable to the project activity. **The methodology is not applicable to the following:** **• Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be**			

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
	the continued use of fossil fuels at the site; Not applicable to the project activity. **• Biomass fired power plants;** Not applicable to the project activity. **• Hydro power plants1 that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m2.** Not applicable to the project activity. *Conclusion:* Project fulfils applicability criteria of the methodology as described in section B.1 of the PDD.			
B.1.4. In case one or more applicability criteria have not been met, has the validation team requested clarification to, revision of or deviation from the methodology in accordance with the latest guidelines? (EB 55 Annex 1, §§ 72–75)	*Description:* Not applicable as project meets all applicability conditions of ACM0002. *Justification of evidences:* See comment just above. *Conclusion:* Not applicable.	/PDD/ /ACM002/	N/A	N/A
B.1.5. Is the project in accordance with every other stipulation or requirement mentioned in all sections of the methodology and in guidances for approved methodologies provided by the CDM EB?	*Description:* In general, the project is in accordance with ACM0002. However, all findings raised must be closed to form an opinion *Justification of evidences:* See findings of this report.	/PDD/ /ACM002/	~~Not yet OK~~	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.**
(EB 55 Annex 1, § 69, 71) *Describe the steps taken to check whether the proposed project activity meets all the other possible stipulations and /or limitations mentioned in all sections of the approved methodology selected.*	*Conclusion:* Please refer to all findings raised.			
B.2. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project*				
B.2.1. Are the project's spatial boundaries (geographical) clearly defined? (EB 55 Annex 1, §§ 67(a), 78–80) *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.*	*Description:* The spatial boundaries are clearly described. *Justification of evidences:* The boundaries are clearly defined and a flow diagram in section B.3 illustrates this issue. *Conclusion:* The spatial and physical borders are clearly defined in the PDD.	/PDD/ /ACM002/	OK	OK
B.2.2. Are all sources and GHGs included in the project boundary as required in the applied methodology? (EB 55 Annex 1, §§ 67(a), 78–80) *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.*	*Description:* Yes, all sources and GHGs included in the project boundary are included in the table in section B.3 of the PDD in line with ACM0002. *Justification of evidences:* The PDD was revised against sources and gases defined in ACM0002. *Conclusion:* The sources are in compliance with the applied methodology as well as with the real situation.	/PDD/ /ACM002/	OK	OK
B.2.3. In case the methodology allows to choose	*Not applicable, since the methodology does not allow such*	/PDD/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
whether a source and/or gas is to be included, is the choice sufficiently explained and justified? (EB 55 Annex 1, §§ 67(a), 78–80) *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.*	*choices*.	/ACM002/		
B.3. Baseline Identification *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.*				
B.3.1. What possible baseline scenarios have been considered? (EB 55 Annex 1, §§ 67(b), 83) *Fill in all alternatives in table A-2.*	*Description:* The baseline is determined according to the applicable methodology and does not require alternative baseline consideration. See definition of baseline in B.3.3 below. *Justification of evidences:* ACM0002 provides a definition of the baseline for the installation of a new grid-connected renewable power plant/unit. *Conclusion:* See definition of baseline in B.3.3 below.	/PDD/ /ACM002/	OK	OK
B.3.2. Is the list of alternatives complete?	*Not applicable, as the baseline is given by the methodology.*	/ACM002/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
(EB 55 Annex 1, §§ 67(b), 83) *Describe how it was validated that all alternatives are plausible and no plausible alternative is excluded from the consideration*				
B.3.3. What has been identified as the baseline scenario? (EB 55 Annex 1, §§ 81–82, 86) *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.*	*Description: 'Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".'* *Justification of evidences:* The definition of ACM002 was applied. *Conclusion:* The definition of ACM002 was applied.	/PDD/ /ACM002/	OK	OK
B.3.4. Has the baseline scenario been determined according to the methodology? (EB 55 Annex 1, §§ 82, 87(e)) *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.*	For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2. ☒ The determination has been carried out as per the procedure contained in the applied methodology. ☐ The following CARs / CLs have been identified with respect to the selection of the baseline scenario: *Description:* The baseline is the electricity that would have otherwise been generated by the operational plants connected to the national Interconnected System. *Justification of evidences:* The definition of ACM002 was	/PDD/ /ACM002/	OK	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.
	applied. *Conclusion:* The definition of ACM002 was applied.			
B.3.5. Has any plausible alternative scenario been excluded? (EB 55 Annex 1, § 83) *Describe how it is validated that no plausible alternative scenario has been excluded.*	*Not applicable, as the baseline is given by the methodology*.	/PDD/ /ACM002/	N/A	N/A
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? (EB 55 Annex 1, §§ 84–86(a)–(c)) *Describe whether the choice of the identified baseline scenario is reasonable by validating the key assumptions, calculations and rationales used in the PDD. Describe whether these are listed, relevant and conservatively interpreted in the PDD.*	*Not applicable, as the baseline is given by the methodology*.	/PDD/ /ACM002/	N/A	N/A

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.3.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations? (EB 55 Annex 1, §§ 85, 87(d)) *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).*	*Not applicable, as the baseline is given by the methodology*.	/PDD/ /ACM002/	N/A	N/A
B.3.8. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced? (EB 55 Annex 1, § 87(a)–(c)) *Describe whether the documents and sources referred to in the PDD are correctly quoted and clearly referenced.*	*Not applicable, as the baseline is given by the methodology*.	/PDD/ /ACM002/	N/A	N/A
B.3.9. Does the PDD contain a *verifiable* description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity. (EB 55 Annex 1, § 86)	*Not applicable, as the baseline is given by the methodology*.	/PDD/ /ACM002/	N/A	N/A

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.4. Additionality Determination *The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.*				
B.4.1. Methodology				
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? (EB 55 Annex 1, §§ 67(d), 94–95) *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.*	*Description:* Yes, the sequence utilized by the PPs to demonstrate the additionality of the project has followed the step-wise approach described in version 6 of the "Tool for the demonstration and assessment of additionality". The additionality is demonstrated by benchmark analysis calculating Equity IRR. *Justification of evidences:* The PDD was reviewed in detail and supporting evidences cross-checked. However, the CLs indicated below in this section have to be closed out to allow a final and conclusive assessment by the validation team. *Conclusion:* Refer to findings raised below in this section B.4.	/PDD/ /ACM002/	~~Not yet OK~~	OK
B.4.2. Consideration of CDM before project start				
B.4.2.1. Is the project starting date reported in accordance with the CDM glossary of terms? (EB 55 Annex 1, § 99, 104(a)) *Assess why the chosen starting date can be considered as the earliest date at which either the implementation or*	*Description:* There is no starting date reported in section C.1.1 of PDD, as according to PP no major financial commitment has been reached yet. The management/investment decision occurred when the PPs made the winning bid in the energy auction, which results in a 20 year PPA for the energy generated by the project activity. The PPA does not	/PDD/ /PSD/ /GT/ /IM01/ /FD/	~~CL C1~~	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.
construction or real action of a project has begun or will begin. *Check that no other activities related to the project that happened before the identified start date can be considered as start date. In this context please also take into consideration infrastructural expenses if they are relevant (in terms of costs and importance for the project implementation) in the specific context of the project activity. Appropriate evidence should be given.*	represent a firm financial commitment towards the implementation of the project, which will only occur when the contract with manufacturer of wind turbines or EPC contractor is signed, which according to PP has not occurred yet. However, CL C1 has been raised, as the Guidelines for Completing PDD requires a date (in this case expected) to be reported. *Justification of evidences:* As per statement in PDD and interviews with representatives of PP, no contract with main suppliers has been signed yet. No evidence has been identified that contradicts this information. *Conclusion:* The starting date has not occurred yet. Nevertheless, PP has to include in section C.1.1 of PDD the expectation of project starting date. Hence CL C1 has been raised. **(CL C1)** Starting Date of the project is missing from section C.1.1.	/LEGIS/		
B.4.2.2. In case the project start date is on or after 2nd August 2008 has the PP informed the DNA and UNFCCC about the intension to seek CDM status? (EB 55 Annex 1, §§ 99–101) *Describe whether such a notification has been provided by the project participants within six months of the project activity start date; if NOT it shall be determined that the*	*Description:* According to PP the project starting date has not occurred yet (see comment above). Nevertheless, a formal notification of the intention to proceed with the project implementation was sent both to the local DNA and UNFCCC on 2012-01-06, which is before the starting date of the project activity. *Justification of evidences:* The proof of receipt of the letter sent to the local DNA and email to the UNFCCC by a confirmation	/PDD/ /IM01/ /PSD/ /unfccc/	OK	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.
CDM was not seriously considered.	letter and email were provided. *Conclusion:* The intention to seek CDM status was correctly informed to UNFCCC and to the local DNA.			
B.4.2.3. In case the project start date is before commencing of validation and 2nd August 2008, was the incentive from the CDM seriously considered and are details given in the PDD? (EB 55 Annex 1, §§ 100, 102) *Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.*	*Not applicable. See comment just above.*	/PDD/ /IM01/	N/A	N/A
B.4.2.4. How and when was the decision to proceed with the project taken? *Describe the steps taken to validate the starting date.*	*Description:* The decision to proceed with the project was taken on 2011-08-17 exactly when the bid price was offered establishing the acceptance of all conditions and price of energy to operate the wind farms and generate energy and results is a 20 year PPA with Eletrobrás. *Justification of evidences:* The validation team has evidenced through interviews with representatives of PPs and review of proposals from suppliers that the bid price is indeed the exact moment when the PPs have truly decided to proceed with the project. *Conclusion:* The management/investment decision was on 2011-08-17, when the bid of project participants was winner in the energy auction, resulting in a 20 year PPA and making	/PDD/ /PSD/ /IM01/ /FD/	OK	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.
	viable the implementation of the project.			
B.4.2.5. Is the project start date consistent with the available evidences? (EB 55 Annex 1, § 102) *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.*	*See comment above in B.4.2.1 and B.4.2.4.*	/PDD/ /PSD/ /IM01/	~~CL C1~~	OK
B.4.2.6. Was the decision to proceed with the project taken by a person which has the authority to do so? (EB 55 Annex 1, § 102(a) *Describe the steps taken to validate this issue.*	*Description:* Yes, the bid price was offered for a qualified and authorized person to participate at the auction as the representative of the company. *Justification of evidences:* All documents from ANEEL with the ratification of the auction have been submitted and verified by the validation team. *Conclusion:* The decision has been taken by a person with the authority to do so.	/PDD/ /PSD/ /IM01/	OK	OK
B.4.2.7. How was the CDM involved in the decision making process? (EB 55 Annex 1, § 102) *Describe why CDM was a decisive factor in the decision making process.*	*Description:* Not applicable as the Global Stakeholder Consultation started on 2012-01-12, i.e. prior to the starting date, which has not occurred yet (see comment on B.4.2.1 and B.4.2.4.). Nevertheless, the PP formally notified UNFCCC about the intention to seek CDM status on 2012-01-06, within 5 months of investment decision on 2011-08-17 (see comment on B.4.2.4.).	/PDD/ /PSD/ /IM01/ /FD/ /unfccc/	~~Not yet OK~~	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.
	Justification of evidences: Evidence of notification to DNA and UNFCC has been reviewed. Further, the contract with DOE for the validation and also the GSC notification from UNFCCC were evidenced. The UNFCCC website has also been checked. Proposals from manufacturers of wind turbines and EPC contractors have been reviewed and interviews with representatives of PP have been carried out in the process to validate the investment decision and starting date of the project. *Conclusion:* The Global Stakeholder Consultation started on 2012-01-12, i.e. prior to the starting date. Moreover, DNA and UNFCCC have been communicated by PPs of the intention to seek the CDM status within 5 months from the management/investment decision. Although it was evidenced that CDM was considered prior to the starting date, the ultimate conclusion on the subject (CDM as a decisive factor in the decision making process) shall be based upon the outcome of the assessment of the financial analysis, depending on the responses to the corresponding CARs and CLs raised in this section.			
B.4.2.8. Do the evidences provided doubtlessly prove that continuous and real actions were taken in order to secure the CDM status? (EB 55 Annex 1, § 102; EB 62 Annex 13 § 7)	*See comment just above.*	/PDD/ /PSD/ /IM01/ /FD/ /unfccc/	OK	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.
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 62 Annex 13 § 8)	*Not applicable to project activity, as the starting date is after 2008-08-02.*	/PDD/ /PSD/	N/A	N/A
B.4.2.10. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM? (EB 62 Annex 5, § 7) *Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.*	*Not applicable to project activity.*	/PDD/	N/A	N/A
B.4.2.11. Can the CDM involvement in the decision assessed as serious? (EB 55 Annex 1, § 104(b)–(c)) *Describe whether or not the project would have been undertaken without the incentive of the CDM.*	*Description:* If there was no possibility of CDM benefits, it is reasonable to assume that the price would not be the one which was the bid price (winning price), and probably the auction result would be different, i.e. the project would not be winner, which means no long term PPA for a fixed price would be available which in turn would make project finance rather unlikely, as without a reasonably reliable cash flow, it would be very difficult to obtain finance for the project. In addition, without CDM incomes it has been demonstrated that the project is not financially attractive as its IRR is below the benchmark.	/PDD/ /PSD/ /IM01/ /FD/ /IRR/	~~Not yet OK~~	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.
	Justification of evidences: The financial spreadsheet and corresponding supporting evidences were reviewed in detail and the IRR of the project is quite low for the project to be considered attractive. No project of the similar scale has been previously developed in Brazil without the incentive of the PROINFA Program (which is no longer available) and/or CDM. It can be reasonably assumed that CDM income was essential for the calculation of the lowest energy price offered in the energy auction, which was fundamental to be a winner and then be entitled to sign a long term PPA (20 years) with the government, which reduces significantly project risks and allows bank finance of largest part of total investment. *Conclusion:* DNA and UNFCCC have been communicated by PPs of the intention to seek the CDM status prior to starting date, which has not occurred yet and within 5 months from the management/investment decision. Although it was evidenced that CDM was considered prior to the starting date, the ultimate conclusion on the subject (i.e. if project would or not have been implemented without CDM) shall be based upon the assessment of the financial analysis, depending on the responses to the corresponding CARs and CLs raised in this section.			
B.4.3. Identification of alternatives Step 1 (in case of SSC projects pl. skip steps 1 and 2 if appropriate)				
B.4.3.1. Does the list of alternatives contain the status-quo situation, the project not	*Description:* The list of alternatives contains the status-quo and the project activity not undertaken as a CDM project.	/PDD/ /ACM002/	OK	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.
undertaken as a CDM project as well as all other viable means of supplying the outputs or sevices that are to be supplied by the proposed CDM project activity? (EB 55 Annex 1, §§ 105–107) *Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.*	*Justification of evidences:* No other alternatives have been analyzed as it is not required by the applied methodology. *Conclusion:* The list of alternatives contains only the status-quo and the project activity not undertaken as a CDM project because no other alternatives are viable. Without CDM benefits, the PP states that the project could not be developed.	/MT/		
B.4.3.2. Have all realistic alternatives been identified to the project? (EB 55 Annex 1, §§ 105–107) *Describe whether the list of alternatives is credible and complete. Describe how it is validated that the alternatives are realistic.*	*Description:* As the baseline is directly given by the methodology ACM0002, the selection of alternatives is not required, otherwise all possible market alternatives for generation of electricity would have to be listed, such as hydraulic, biomass, fossil fuel based thermo electric power plants, etc. which would not add a relevant point for assessment of additionality. *Not applicable to project activity.*	/PDD/ /ACM002/	N/A	N/A
B.4.3.3. Do all identified alternatives comply with enforced legislations? (EB 55 Annex 1, §§ 106(c)) *Describe the steps taken to validate this issue. Refer to the legislations.*	*Description:* Yes, all alternatives described in the PDD are in agreement with mandatory laws and regulations. *Justification of evidences:* There is no legislation in Brazil preventing any of the identified alternatives. *Conclusion:* All alternatives described in the PDD comply with mandatory laws and regulations.	/PDD/ /aneel/ /sema/ /fepam/ /conama/ /EL/	OK	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.
B.4.4. Investment analysis Step 2 *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 additonal details of the the calculation parameters..*				
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 feasable without the revenues from the sale of CERs? (EB 55 Annex 1, § 108)	*Description:* Yes, a benchmark analysis is the basis of additionality determination and Equity IRR is the financial indicator chosen. According to the Draft PDD, the IRR is below the benchmark, and hence not financially attractive. However, findings have been raised and need to be closed before forming an opinion. *Justification of evidences:* PDD and investment analysis spreadsheet were checked. *Conclusion:* Refer to the findings raised in this section.	/PDD/ /FD/ /IRR/	~~Not yet OK~~	OK
B.4.4.2. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)? (EB 55 Annex 1, § 108; EB 39 Annex 10) *Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.*	*Description:* The chosen approach for demonstrating the additionality of the project is the Benchmark Analysis (Option III). The project activity generates economic benefits with the sale of energy, therefore the simple cost analysis (Option I) cannot be used. As there is no evidence that the proposed baseline scenario does no leave any other option to the PPs than to make an investment to supply the same product or service, the investment comparison analysis (Option II) cannot be used. So, Benchmark analysis (Option III) is appropriate and the best method to demonstrate additionally for a project implemented with the sole purpose of energy	/PDD/ /MT/	~~CL B1~~	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.
	generation for commercialization. However, CL B1 has been raised. *Justification of evidences:* The PDD has been analyzed against the Tool for the Demonstration and Assessment of Additionality. *Conclusion:* Benchmark analysis has been appropriately chosen as the method of analysis. **(CL B1)** Please explain/justify why two financial indicator (IRR) calculations have been carried out for respectively groups of six and ten wind farms and not individually or differently divided.			
B.4.4.3. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation? (EB 55 Annex 1, § 110; EB 51, Annex 58, §8) *Describe the steps taken to validate this issue.*	*Description:* A viewable and unprotected excel spreadsheet document was made available to validation team and was reviewed about clarity and access of calculation and data. However, CAR B3 was raised. *Justification of evidences:* The excel spreadsheet was reviewed in detail. *Conclusion:* **(CAR B3)** In the financial model spreadsheets, proper reference and rationale is missing for the assumption for ONS fee and CCEE contribution cell (D84). Further, the values of IRR in the PDD are not consistent with those in the respective financial spreadsheets.	/PDD/ /IRR/	~~CAR B3~~	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.
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 55 Annex 1, § 109; EB 62 Annex 5, § 3 – 4) *Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilized in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.*	*Description:* The period of investment analysis considers 20 years, which is the length of the PPA for the project activity and also consistent with the expected technical lifetime of the turbines. *Justification of evidences:* The rules and results of the energy auction which result in a 20 year PPA have been reviewed by validation team. According to Brazilian accounting regulations the assets will be fully depreciated before the end of the analysis period, as evidenced by the depreciation rate established in the Manual of Asset Control of Electric Sector – Annex to ANEEL resolution 367/2009, rev. 1 (2009-06-02) – ANEEL – 2009-09-11, which reflects the general technical lifetime expectations of wind turbines. *Conclusion:* The period of assessment is 20 years and it reflects the technical lifetime of wind turbines as well as it is in line with the long term PPA to be signed for the project.	/PDD/ /FD/ /AUCTION/ /LIFE/ /TD/ /fazenda/	OK	OK
B.4.4.5. Is the (remaining) technical lifetime of existing or project equipment defined in accordance with the guidance of the *Tool to determine the remaining lifetime of equipment*? (EB 50 Annex 15)	*Not applicable to the project activity (Greenfield).*	/PDD/	N/A	N/A
B.4.4.6. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice?	*Description:* The period of analysis is conservative (20 years), and in line with EB61 Annex 13. All assets will be fully depreciated before the end of the 20 year period, so book	/PDD/ /FD/	OK	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.
(EB 55 Annex 1, § 109; EB 62 Annex 5, § 4) *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.*	value will be zero according to local accounting regulations and thus no fair value was considered. *Justification of evidences:* According to Brazilian accounting regulations, the assets will be fully depreciated before the end of the analysis period, therefore no fair value is considered and a full depreciation will happen in 20 years, which is in line with expected technical lifetime of the main equipment. *Conclusion:* Fair value is in line with accounting regulations and equipment lifetime.	/LEGIS/ /IRR/ /fazenda/		
B.4.4.7. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 4)	*Description*: The period of analysis is conservative (20 years), and in line with EB61 Annex 13. All assets will be fully depreciated before the end of the 20 year period, so book value will be zero according to local accounting regulations and thus no fair value was considered. Moreover, after 20 years, it is not expected any profit in eventual alienation of assets, which will be at the end of their technical lifetime. *Justification of evidences:* A full depreciation will happen in 20 years as this is the expected lifetime of the wind turbines according to depreciation rates established by ANEEL. It is reasonable to assume that the wind generators which represent most (60%) of the CAPEX of the project will not have residual value after 20 years (on the contrary, expenses for disassembly are expected). *Conclusion:* The book value will be zero as there is no	/PDD/ /FD/ /IRR/ /fazenda/	OK	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.
	expectation of potential profit or loss in the alienation of the asset, so no fair value is considered.			
B.4.4.8. Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 5)	*Description:* Not applicable as the project uses *assumed profit* for calculation of income tax, additional income tax and social contribution. However, CL B2 has been raised. *Justification of evidences:* In line with tax legislation, the above mentioned taxes are calculated based on an assumed profit (percentage) of total revenues; therefore depreciation does not impact the cash flow, as the taxes are calculated based on gross sales. *Conclusion:* Not applicable, as depreciation does not have any impact in the cash flow and IRR calculation. **(CL B2)** The conditions to apply to the assumed profit regime are not clearly described, as follows: a. applicability per each wind power plant; b. how and why the additional income tax rate of 10% is applied; c. that depreciation, loan rates and any other costs of capital are or are not applied in the analysis because of the assumed profit regime; d. necessary references are missing in the excel.	/PDD/ /IRR/ /FD/ /LEGIS/ /fazenda/	~~CL B2~~	OK
B.4.4.9. Were the input values used in the	*Description:* Yes, all input data were valid at the moment of	/PDD/	OK	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.
investment analysis valid and applicable at the time of the investment decision? (EB 55 Annex 1, § 109,112; EB 62 Annex 5, § 6) *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 finalization of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.*	management decision, marked by the date of the energy auction when the (winning) bid price was given by project owners. *Justification of evidences:* The investment analysis has been checked. All input data is clearly referenced in excel sheet. For a detailed analysis please refer to Table A-3 Annex 3. *Conclusion:* All input values used in the investment analysis valid and applicable at the time of the investment decision.	/FD/ /IRR/ /bcb/ /BNDES/ /RENOVA/		
B.4.4.10. Is the plant load factor (PLF) chosen in a conservative manner, taking into account that the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER? (EB 48, Annex 11)	*Description:* The PLF has been determined by a certification of third parties/PLF/. *Justification of evidences:* As the PLF has been determined by a certification of third parties, in accordance with EB 48, Annex 11, and this value has been used in the management decision for defining the price, it is conservative to consider it in the financial calculation. *Conclusion:* PLF has been chosen in a conservative manner and in line with EB 48, Annex 11.	/PDD/ /IRR/ /PLF/	OK	OK
B.4.4.11. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 9)	*Not applicable as Equity IRR was chosen by project participant as financial indicator.*	/PDD/ /IRR/	N/A	N/A
B.4.4.12. In cases where a post-tax benchmark is	*Description:* Not applicable as the project uses *assumed profit*	/PDD/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
applied please ensure that actual interest payable is taken into account in the calculation of income tax. (EB 55 Annex 1, § 109; EB 62 Annex 5, § 11) *If this is not the case, ensure that taxation is excluded from the investment analysis.* *As per the guidance it is recommended to select a pre tax benchmark in order to describe the steps taken in assessing this requirement.*	for calculation of income tax, additional income tax and social contribution, hence actual interest payable does not affect tax calculation. *Justification of evidences:* In line with tax legislation, the above mentioned taxes are calculated based on an assumed profit (percentage) of total revenues; therefore depreciation does not impact the cash flow, as the taxes are calculated based on gross sales. *Conclusion:* Not applicable, as actual interest payable does not affect tax calculation.	/IRR/ /FD/ /BENCH/ /LEGIS/ /fazenda/		
B.4.4.13. 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 55 Annex 1, § 109; EB 62 Annex 5, § 10)	☐ N/A ☒ Yes, case in- and outflows have been considered correctly. ☐ No, this requirement is not met.	/PDD/ /IRR/ /BENCH/	OK	OK
B.4.4.14. 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 55 Annex 1, § 111; EB 62 Annex 5, §§12 – 18) *In case risk premiums are applied precisely describe its suitability to reflect the risks associated with the project activity, considering*	*Description:* Yes, the chosen benchmark is the average cost of equity, determining using the Capital Asset Pricing Model (CAPM). *Justification of evidences:* The benchmark chosen is in line with EB 62 Annex 5, §12, which states that "*Required/expected returns on equity are appropriate benchmarks for equity IRR*". The specific excel spreadsheet benchmark calculations and the PDD were checked. *Conclusion:* The chosen benchmark (average cost of equity	/PDD/ /BENCH/ /IRR/	OK	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.
the project type and market situation.	applying CAPM Model) is appropriate for the type of IRR calculated.			
B.4.4.15. 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? (EB 55 Annex 1, § 109; EB 62 Annex 5, §§13 – 18) *Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.*	*Description:* The benchmark value is suitable for the project activity and it is reasonable to assume that no investment would be made at a rate of a lower return than the benchmark. Nevertheless, CL B4 was raised. *Justification of evidences:* The specific excel spreadsheet benchmark calculations and the PDD were checked. *Conclusion:* Benchmark value is suitable for the project activity, but CL B4 has been raised for further clarity in the PDD. **(CL B4)** The method of calculation of beta, including reasons for un-levering it and then re-levering again, is not described in detail in the PDD.	/PDD/ /BENCH/ /IRR/	~~CL B4~~	OK
B.4.4.16. Is it ensured that the project cannot be developed by other developers than the PP? (EB 55 Annex 1 § 109; EB 62 Annex 5, §§ 13 – 14) *Describe why the benchmark does not include the subjective profitability expectations or risk profile of the project developer. If applicable assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects.*	*Description:* Yes, the calculation of the benchmark applying the CAPM model is carried out using public available information, including **IEE index** (energy sector index created by BM&F-BOVESPA (the most important Brazilian institution to intermediate equity market transactions and the only securities, commodities and futures exchange in Brazil), **Ibovespa** (the main indicator of the Brazilian stock market performance) and **Brazilian government long term bonds.** Therefore, it does not include the subjective profitability expectations or risk profile of the project developer.	/PDD/ /BENCH/ /bmfbovespa/ /fazenda/	OK	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.
	Justification of evidences: The used indexes are public available and regulated by BM&F-BOVESPA/bmfbovespa/ and government bonds are used by Brazilian government to roll its debt and are also publicly available/fazenda/. *Conclusion:* The benchmark does not include the subjective profitability expectations or risk profile of the project developer.			
B.4.4.17. Was the benchmark consistently used in the past for similar projects with similar risks? (EB 55 Annex 1, § 112(c))	*Description:* It is deemed reasonable to assume that no investment would be made at a rate of return lower than the benchmark, as the benchmark is calculated using a widely used model (CAPM) and public available information on general market returns (Ibovespa-Brazilian stock market returns) and IEE Index (Energy sector Index comprising 17 of the most important companies of the electric energy sector in Brazil including state owned companies, local branches of global companies and fully national ones) and government long term bonds (Treasury Notes). *Justification of evidences:* The used indexes are public available and regulated by BM&F-BOVESPA/bmfbovespa/ and government bonds are used by Brazilian government to roll its debt and are also publicly available/fazenda/. *Conclusion:* It is deemed reasonable to assume that no investment would be made at a rate of return lower than the benchmark.	/PDD/ /BENCH/ /bmfbovespa/ /fazenda/	OK	OK
B.4.4.18. Does the PDD and related spreadsheets contain a sensitivity analyis and does the same contain variation of parameters	*Description:* Yes, a sensitivity analysis is included in the PDD and financial spreadsheet. Key parameters which may vary throughout the project lifetime were included: Capital	/PDD/ /IRR/	OK	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.
which may vary throughout the project lifetime, (EB 55 Annex 1, §§ 109–110(e); EB 62 Annex 5, § 20-21) *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.*	Expenditures (CAPEX), Project Revenues and Operational Expenditures (OPEX). *Justification of evidences:* PDD and spreadsheet were reviewed in detail. For more details of assessment of each financial parameter, please refer to Table A-3 Annex 3. *Conclusion:* PDD and financial spreadsheets contain a Sensitivity Analysis, with a sensible variation of up to +10% or -10% of crucial parameters. Moreover, a breakeven point analysis has been carried out by PP, which shows that the demonstration of additionality is robust.	/FD/		
B.4.4.19. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 20)	*Description:* Yes, see comment above. All parameters above the 20% threshold were included and subject to a reasonable variation (+-10%). *Justification of evidences:* PDD and spreadsheet were reviewed in detail. Although the parameters may vary during the project's lifetime, a -/+10% variation is deemed appropriate and the required variation to achieve the benchmark is quite high, as demonstrated in the breakeven point analysis. *Conclusion:* The parameters included and the variations applied are reasonable and in line with EB 61 Annex 13. For more details of assessment of each financial parameter, please refer to Table A-3 Annex 3.	/PDD/ /IRR/ /FD/	OK	OK
B.4.4.20. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material	*Description:* No, no other such parameters with material impact have been identified.	/PDD/ /FD/	OK	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.
impact on the financial parameter? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 20) *Describe whether those parameters are considered in the sensitivity analysis?*	*Justification of evidences:* PDD and financial spreadsheets were reviewed in detail. *Conclusion:* No parameters constituting less than 20% of total project costs or revenues with material impact on the financial indicator have been identified.	/IRR/		
B.4.4.21. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector? (EB 55 Annex 1, § 109; EB 62 Annex 5, § 21) *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.*	*Description:* Yes, the range of variation applied is deemed appropriate by the validation team, considering that the input values applied are deemed adequate and conservative, as described in the assessment of each financial parameter in Table A-3 Annex 3. Moreover, the PP performed a breakeven analysis which shows that a variation much greater than the -/+10% required by the Guidelines is required to achieve the benchmark, which show the robustness of additionality demonstration. *Justification of evidences:* PDD and spreadsheet were reviewed in detail. Each financial parameter was reviewed and validated carefully considering submitted evidences, public available sources of information and the local expertise of the validation team. The variation is in line with latest EB guidance. Registered CDM projects were checked and the variation is in line with other similar registered CDM projects. *Conclusion:* The variation applied is considered appropriate in the context of the project activity, taking in consideration historic trends in the business sector.	/PDD/ /IRR/ /FD/	OK	OK
B.4.5. **Barrier analysis Step 3 or SSC additionality**				

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
assessment				
B.4.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project? (EB 55 Annex 1, §§ 115, 134, 137) *In case of LSC projects those issues cannot be considered as 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 62 Annex 5.*	*Not chosen by PPs.*	/PDD/	N/A	N/A
B.4.5.2. Are the barriers described risk related (e.g technology failure, other performance related risks)? (EB 55 Annex 1, §§ 116, 134, 137) *Are there other barriers or barriers due to prevailing practice existent which would have led to higher emissions?*	*Not chosen by PPs.*	/PDD/	N/A	N/A
B.4.5.3. Has the unavailabilty of means of finance for the proejct been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the project was assured only due to the benefit of the CDM? (EB 55 Annex 1, §§ 116, 137, EB 50 Annex 13, § 9)	*Not chosen by PPs.*	/PDD/	N/A	N/A
B.4.5.4. How is it justified and evidenced that the barriers given in the PDD are real?	*Not chosen by PPs.*	/PDD/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
(EB 55 Annex 1, § 116(a))				
B.4.5.5. 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 55 Annex 1, § 116(b))	*Not chosen by PPs.*	/PDD/	N/A	N/A
B.4.5.6. Does the review of relevant background information on the nature of the company(ies) and entitiy(ies) involved in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real? (EB 50 Annex 13, § 4)	*Not chosen by PPs.*	/PDD/	N/A	N/A
B.4.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers? (EB 50 Annex 13, § 5)	*Not chosen by PPs.*	/PDD/	N/A	N/A
B.4.5.8. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated?	*Not chosen by PPs.*	/PDD/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
(EB 50 Annex 13, § 7) *Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analyzing the project's additionality within the framework of an investment analysis is inappropriate. .*				
B.4.6. Common practice analysis Step 4 (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 55 Annex 1, § 120(a)) *Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.*	*Description:* Yes, the defined region is Brazil and it is appropriate as it is possible to check the situation of wind farms in the whole country. *Justification of evidences:* ANEEL's regulations have been checked *Conclusion:* The choice of the whole country is justified as the ANEEL's regulations are the same for the whole country. **Note:** By the last version of the PDD presented to the validation team, the Common Practice Analysis has been performed as per paragraph 47 of the the "Tool for the demonstration and assessment of additionality" (version 06.0.0). Refer to the assessment at Section 5.2.5 of this Report.	/PDD/ /aneel/	OK	OK
B.4.6.2. To what extent similar projects have been undertaken in the relevant region? (EB 55 Annex 1, § 120(b))	*Description:* There were 71 wind farms in operation in Brazil on 2012-01-03 and only 17 of them are not under PROINFA program. From those 17, 6 are being developed as CDM projects. For the remaining 11 without PROINFA or CDM	/PDD/ /aneel/ /unfccc/ /eletrobra	~~CL 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.
	benefits, the PP made an analysis not definite, so CL B5 was raised. *Justification of evidences:* The websites of UNFCCC, ANEEL and Eletrobrás were checked. *Conclusion:* **(CL B5)** At the Common Practice Analysis, the justification about why the three projects developed by *Wobben* (wind equipment manufacturer) and also *Palmas* are not similar is not sufficiently clear to justify exclusion from list of similar activities to the project activity. Refer to the Note at B.4.6.1 above.	s/ /ACM002/		
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 55 Annex 1, § 120(c))	*Description:* Eleven wind farms have been identified to be discussed, but as stated above, the analysis is not complete, so CL B5 was raised. *Justification of evidences:* The websites of UNFCCC, ANEEL and Eletrobrás were checked. *Conclusion:* Refer to CL B5 above. Refer to the Note at B.4.6.1 above.	/PDD/ /aneel/ /unfccc/ /eletrobras/ /ACM002/	~~CL 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.
B.5. Ex-Ante Calculation of GHG Emission Reductions *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.*				
B.5.1. Are the equations applied correctly according to the applied approved methodology? (EB 55 Annex 1, §§ 67(c), 89–90, 92) *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.*	☒ The equations applied for calculation are correctly applied according to the approved methodology. ☐ The following mistakes have been identified in this context: *Description:* The applied equations are correct according to ACM0002. The baseline emissions are calculated by the *Quantity of net electricity ($EG_{PJ,y}$)* times *Combined margin CO_2 emission factor for grid* ($EF_{grid,CM,y}$ – which is calculated using the last version of the "Tool to calculate the emission factor for an electricity system" using the data provided by the Brazilian DNA – $EF_{grid,OM,y}$ and $EF_{grid,BM,y}$). The emission reductions are the baseline emissions minus project emissions (which for this type of project are null as per the methodology). *Justification of evidences:* The PDD and ER calculations	/PDD/ /ACM002/ /XLS/	OK	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.
	spreadsheet have been checked against ACM0002 – v. 12.2.0. *Conclusion:* The equations applied for calculation are correctly applied according to the approved methodology.			
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)? (EB 55 Annex 1, §§ 90–91) *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.*	*Not applicable as the methodology does not allow such choices.*	/ACM002/	N/A	N/A
B.5.3. Have conservative assumptions been used when calculating the project emissions? (EB 55 Annex 1, §§ 90–91) *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.*	*Description:* The baseline emissions are calculated based on net energy generated multiplied by the combined margin emission factor (EF) calculated according to the Tool to Calculate the emission factor for an electric system and published by Brazilian DNA. *Justification of evidences:* Data used is adequate as the EF value is publicly available and calculated by the Ministry of Science and Technology and published by the Brazilian DNA and the energy generation is calculated using the PLF	/PDD/ /dna/ /PLF/ /XLS/	OK	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.
	certified by a specialized third party. *Conclusion:* Conservative assumptions have been used when calculating the project emissions.			
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? (EB 55 Annex 1, § 77)	*Description:* No, as no other emission sources than those described in the methodology have been identified. *Justification of evidences:* The applied methodology and performed interviews have been used to check this issued. *Conclusion:* No other emission sources than those described in the methodology have been identified.	/PDD/ /ACM002/ /IM01/	OK	OK
B.5.4.1. Has a plant load factor (PLF) been defined ex-ante and considered for determination of baseline emissions? (EB 48 Annex 11, §§ 1, 3–4) *Describe why the PLF is conservative in the framework of calculating emissions reductions and whether the PLF is the same in the framework of demonstrating additionality by applying the investment analysis. Note, in order to be conservative in both cases the PLF may be different.*	*Description:* Although the energy generated will be monitored ex-post, an ex-ante value has been defined. Two studies have been done for Chuí-Minuano complex (with two different wind generators) and one for Verace Complex by third parties *Justification of evidences:* Technical Reports of the PLF studies of third parties were presented and checked. *Conclusion:* The PLF has been estimated ex-ante by third parties studies and the same PLF is applied for ER ex-ante calculations and financial analysis.	/PDD/ /PLF/ /XLS/	OK	OK
B.5.5. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a	*Description:* Yes, the fixed parameters will lead to a conservative estimation of emission reductions. *Justification of evidences:* The fixed parameters are given by	/PDD/ /ACM002/ /MT/	OK	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.**
conservative estimation of emission reductions? (EB 55 Annex 1, § 91) *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.*	the applied methodology and tools. *Conclusion:* The fixed parameters are from the emission factor tool and they will lead to a conservative estimation of emission reductions.			
B.5.6. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1) reasonable? (EB 55 Annex 1, § 91) *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*	☒ All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and conservative. ☐ The following mistakes have been identified in this context: *Description:* The *Quantity of net electricity generation supplied by the project plant to the grid in the year* is estimated as the average total net electricity energy generated by the project activity in the year as per the Technical Report of Inova Energy (PLF study) of each plant; $EF_{grid,CM,y}$ is calculated using the last version of the "Tool to calculate the emission factor for an electricity system" using the data provided by the Brazilian DNA for $EF_{grid,OM,y}$ and $EF_{grid,BM,y}$. *Justification of evidences:* The PDD, Excel calculations and PLF studies have been checked. *Conclusion:* The values are reasonable and appropriate in the context of the project activity.	/PDD/ /XLS/ /PLF/	OK	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.
B.5.7. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. *Describe the steps taken to validate this issue.*	*Description:* Several findings have been raised and have to be closed out before forming an opinion. *Justification of evidences:* See comments above in this section. *Conclusion:* Please refer to the CARs and CLs raised above.	/PDD/ /XLS/	~~Not yet OK~~	OK
B.6. Monitoring of Emission Reductions *It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.*				
B.6.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan? (EB 55 Annex 1, §§ 67(e), 121, 123(a), 124) *Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.* *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.* *In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.*	*Description:* No, not all the monitoring parameters required by the methodology are listed in the monitoring plan. So, CAR B6 was raised. *Justification of evidences:* The applied methodology and tool were checked. *Conclusion:* (**CAR B6**) In section B.7.1, parameter $EF_{grid,CM}$ is missing.	/PDD/ /ACM002/ /MT/	~~CAR B6~~	OK
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	*Description:* Parameters $EF_{grid,OM,y}$ and $EF_{grid,BM,y}$ are given by the Brazilian DNA for the calculation of $EF_{grid,CM,y}$. For the monitoring of $EG_{facility,y}$, the description of the meters	/PDD/ /ACM002/	~~CAR B7~~	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.
applied methodology? (EB 55 Annex 1, § 123(a)–(b), 124) *Assess whether the provided information for all parameters w.r.t.* *a) Label (name of the data / parameter)* *b) data unit* c) *description* d) *source of data* e) *measurement equipment / method / procedure* f) *monitoring frequency* g) *QA/QC procedures* *are appropriately described and in compliance with the requirements of the methodology..*	is clear. Nevertheless, some clarifications are necessary, so CAR B7 was raised. *Justification of evidences:* The procedures for monitoring and calculating the monitored parameters are described in the monitoring plan and are feasible and in accordance with the requirements of ACM0002. *Conclusion:* **(CAR B7)** In section B.7.1, for parameter $EG_{facility,y}$, the precise location of meters used for monitoring is missing. Further information about the cross check of electricity generation data is not consistent with information given by representatives of PP during site visit.	/dna/		
B.6.3. Are all parameters presented as per international standards? *a) Format: Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).* *b) Units: Values shall be directly given in SI units – or additionally to original units transferred to SI.* *c) Short scale naming system: (Only) million = 10^6 and billion 10^9 shall be used.* *Please refer to the International System of Units (SI) as published within Guidance 11/08.*	☒ Standard formats have been used ☒ SI units were used – or added ☒ The short scale naming is correct	/PDD/ /IRR/ /XLS/	OK	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.**
B.6.4. 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 55 Annex 1, §§ 123(b), 124) *Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.* *Please consider that additional equations might be necessary to calculate auxiliary parameters.*	*Description:* Yes, all equations necessary to ex-post emission reduction calculation are clearly defined. *Justification of evidences:* Equations are clearly defined in section B.6.1 of the PDD, which has been checked. *Conclusion:* All means of implementing the monitoring plan have been clearly described and are in line with the methodology. The equations used for ER calculations are correctly and clearly defined.	/PDD/ /ACM002/	OK	OK
B.6.5. Is it likely that the monitoring arrangements described in the PDD can properly be implemented in the context of the project activity? (EB 55 Annex 1, § 124(c)) *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.*	*Description:* The monitoring arrangements have to be revised for parameters $EG_{facility,y}$, so CAR B7 was raised. *Justification of evidences:* Sections B.7.1 and B.7.2 of the PDD have been checked against the applied methodology. *Conclusion:* Refer to CAR B7 above in B.6.2.	/PDD/ /ACM002/	~~CAR B7~~	OK
B.6.6. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activit can be reported ex-post and verified? (EB 55 Annex 1, § 124(b))	*Description:* Some clarifications have to be done as the information to cross check the monitored data of $EG_{facility,y}$ is not complete. CAR B7 was raised. *Justification of evidences:* Sections B.7.1 and B.7.2 of the PDD have been checked and interviews with PPs representatives	/PDD/ /ACM002/ /IM01/ /ccee/	~~CAR B7~~	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.
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.	have been performed to assess this issue. *Conclusion:* Refer to CAR B7 above.			
B.6.7. Are procedures identified for data management? (EB 55 Annex 1, § 124(b)) *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* *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.*	*Description:* Yes, procedures, type of data and responsibilities are identified and provisions for data archiving are made. *Justification of evidences:* There are identified procedures for data management system described in Section B.7.2 of the PDD. *Conclusion:* The procedures for data management are properly identified.	/PDD/	OK	OK
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*				

Checklist Item (incl. guidance for the validation team)	**Validation Team Comments** (justification and substantiation of information, data and evidences)	**Ref.**	**Draft Concl.**	**Final Concl.**
C.1. Is the project's operational lifetime clearly defined and evidenced? *Check whether the project lifetime is correctly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool).* *Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.*	*Description:* The operational lifetime is clearly defined as 20 years in section C.1.2. *Justification of evidences:* The PPA of the project activity and ANEEL directives (Manual of Asset Control of Electric Sector), which defines depreciation percentages for project assets, were checked. *Conclusion:* Operational lifetime is clearly defined and evidenced.	/PDD/ /GT/ /LEGIS/ /LIFE/	OK	OK
C.2. Is the start of the crediting period clearly defined and reasonable? *Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.*	*Description:* The starting date of the crediting period is clearly defined at section C.2.1.1 as 2014-01-01. *Justification of evidences:* It is reported in section C.2.1.1 of PDD. *Conclusion:* Starting date of the crediting period is clearly defined and realistic considering time needed for validation and beginning of operation of project activity.	/PDD/ /IM01/	OK	OK
D. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.*				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)? (EB 55 Annex 1, §§ 131–133)	*Description:* For this type of project, the host party requires a RAS - Simplified Environmental Report/EIA/ which was prepared by a third party and submitted to the state	/PDD/ /EIA/ /EL/	OK	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.**
Check the host party regulations, regarding EIA.	environmental authority to start the licensing process. By the time of the studies, the wind plants were grouped in 3 complexes (Chuí, Minuano and Verace) and the areas considered were larger than the actual project activity as there is a potential for more wind farms. *Justification of evidences:* The RAS of all complexes were reviewed, as well as the federal and state legislation concerning environmental licensing process applicable for wind projects. *Conclusion:* The project complies with host party legislation regarding EIA.	/sema/ /fepam/ /ibama/ /conama/		
D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applcable duly approved? (EB 55 Annex 1, §§ 131–133) *Check the EIA and its approval, if applicable.*	*Description:* As explained above a RAS (which is similar to an EIA) was conducted by a third party and dully approved by FEPAM and IBAMA, which issued the Previous and Installation Licenses for all wind farms complexes, as per the corresponding RAS (Chuí, Minuano and Verace). By the time of the validation process, Chuí and Minuano have previous licenses and Verace has an installation license. The licenses for Chuí and Verace have been issued by FEPAM (state environmental agency) and the license for Minuano has been issued by IBAMA (federal environmental agency). As clarified during the visit, the issuance by IBAMA has happened as per the applied legislation due to its close location with the Uruguayan border.	/PDD/ /EIA/ /EL/ /OL/ /sema/ /fepam/ /ibama/	~~CL D1~~	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.
	As this is not clarified in the PDD, CL D1 was raised *Justification of evidences:* The RAS, licenses and legislation were reviewed. *Conclusion:* EIA (RAS in this case) was approved by FEPAM and IBAMA. **(CL D1)** In section D.1, it is not explained why environmental license for Minuano was carried out by IBAMA and for the other wind facilities by FEPAM.			
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 55 Annex 1, §§ 130–132) *Check the PDD (section D). Check whether the project will create any adverse environmental effects.* *Check the relevant national environmental legislation.*	*Description:* There are no significant environmental impacts envisaged for this project as per the RAS. As the final approval from environmental authority will be obtained just after the construction of the wind farm, FAR D2 was raised. *Justification of evidences:* The RAS, licenses and legislation were reviewed. *Conclusion:* **(FAR D2)** At moment of validation it consists of a greenfield project therefore there is no environmental license yet. The operating license issued by the environmental authority shall be requested during the first verification to ensure that the project complies with all environmental requirements of host country.	/PDD/ /EIA/ /IM01/ /IM02/ /EL/ /OL/	~~FAR D2~~	OK
D.1.4. Are transboundary environmental impacts	*Not applicable, since no transboundary environmental*	/PDD/	N/A	N/A

Checklist Item (incl. guidance for the validation team)	Validation Team Comments (justification and substantiation of information, data and evidences)	Ref.	Draft Concl.	Final Concl.
considered in the analysis? (EB 55 Annex 1, §§ 131–133) *Check the documents and local official sources / expertise regarding transboundary environmental impacts.*	*impacts are envisaged for such type of project.*	/EIA/		
E. Stakeholder Comments *The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.*				
E.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD? (EB 55 Annex 1, § 128) *Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.*	*Description:* Yes, as described in section E.1, several relevant stakeholders have been invited for the consultation prior to the publication of the PDD: I. Town Hall of Chuí; II. Town Hall of Santa Vitória do Palmar; III. City Hall of Chuí; IV. City Hall of Santa Vitória do Palmar; V. Municipal Secretary of the Environment of Chuí; VI. Municipal Secretary of the Environment of Santa Vitória do Palmar; VII. SEMA – Secretary of the Environment the State of Rio Grande do Sul; VIII. FEPAM – Environmental Agency of the State of Rio	/PDD/ /SHCP/ /way/	OK	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.
	Grande do Sul; IX. FBOMS – Forum of Brazilian NGOs; X. State Attorney for Public Interest (Rio Grande do Sul); XI. State Attorney for Public Interest (Federal); XII. Commercial, Industrial and Agricultural Association of Chuí; XIII. Rural Workers Syndicate of Chuí; XIV. Rice Planters Association of Santa Vitória do Palmar; XV. Rural Workers Syndicate of Santa Vitória do Palmar; XVI. ECOPALMAR – Environmental Society of Santa Vitória do Palmar. *Justification of evidences:* Invitations and confirmations of receipt have been presented to the validation team. *Conclusion:* Relevant stakeholders have been invited to consultation prior to the publication of PDD for GSC.			
E.2. Can the local stakeholder consultation process be assessed as adequate? (EB 55 Annex 1, § 129(a)–(c)) *Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.*	*Description:* All relevant stakeholders have been invited to consultation following host country DNA rules (Resolution 1 and 7) prior to the publication of PDD for GSC and according to PP there was no negative comment from local stakeholders received to date. The only comments received were from: - Letter from the Federal State Attorney for Public	/PDD/ /SHCP/ /way/ /unfccc/	OK	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.
Please consider the following requirements in this context: *(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;* *(b) The summary of the comments received as provided in the PDD is complete;* *(c) The project participants have taken due account of any comments received and have described this process in the PDD.*	Interest saying that could not make any comment about the project; - Email of congratulations for the project from the Municipal Secretary of the Environment of Chuí. As the comments were neutral and/or favorable, no actions have been developed by the PPs. So, the local SHC can be assessed as adequate and has observed all rules of the Brazilian DNA. *Justification of evidences:* Invitations letters and confirmations of receipt were evidenced. The website indicated in the PDD was checked and the Portuguese version of the PDD as well as the Annex describing the contribution of the project to the sustainable development were both available, confirming compliance with host country DNA rules for CDM local SHC. *Conclusion:* The local stakeholder consultation process can be assessed as adequate.			

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification (EB 55 Annex 1 §§83 – 86)

☒	Baseline is not identified (i.e. it is given by the baseline methodology)
☐	Assessment of baseline see below

Baseline Alternatives identified	In line 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)

ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3a: Assessment of Financial Parameters (EB 55 Annex 1, §§ 111, 112, 114/ in case financial parameters stem from FSR §113) – **Chuí/Minuano Complex**

☐	No financial parameters are used for additionality justification
☒	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
Installed Capacity	144	MW	Technical Report Layout and Energy Generation Estimation – MegaJoule Impsa IWP-100 – Technical Specifications	/PLF/ /TD/	☒	☒	*Description:* the value is the sum of the total installed capacity in all six plants: - Chuí I (24 MW); - Chuí II (22 MW); - Chuí IV (22 MW); - Chuí V (30 MW); - Minuano I (22 MW); - Minuano II (24 MW). *Justification of Evidences:* those values can be evidenced by the technical specifications of the wind generators' supplier and by the

							third parties studies of the energy production. *Conclusion:* the values are consistent since the certifications have been made by third parties and the values are the total amount of power of all wind generators.
Wind Turbines	330,976,800	R$	Renewed Proposal of Supply of Wind Generators – Impsa Wind	/FD/	☒	☒	*Description:* the total price for 72 wind turbines. The value is given by the supplier's renewed proposal that established the value for the auction. *Justification of Evidences:* the supplier's proposals have been checked. *Conclusion:* the total investment cost is consistent with supporting evidences provided and the value of total investment per installed capacity has been further cross-checked with public available data and other CDM projects (registered and under validation) resulting in the conclusion that the value is adequate to the project type context. Refer to the comparison presented below for Total investment.
Total Investment	491,115,994.71	R$	Renewed Proposal of Supply of Wind Generators – Impsa Wind Proposal for Infrastructure	/FD/	☒	☒	*Description:* total investment cost reported is composed of all costs of CAPEX. Several items have been described and supporting evidences submitted to validation team along with the financial analysis of the project. As a clarification, the proposal of Schahin Engenharia S.A. comprises all plants of the Wind farm Complex Santa Vitória do Palmar and Chuí (Verace I to X, Chuí I to V,

			implementation – Schahin Proposal of the electrical implementation – ABB Proposal of Extended Warrant and O&M for five years for the Wind Generators – Impsa Wind				Minuano I and II). As the wind farm Chuí III was expected to have a nominal capacity of 24MW at that moment, the proposal refers to a 426MW Windfarm Complex (= 258MW + 144MW + 24MW). In order to calculate the correct proportion of the civil works costs due to each group of wind power plants, the total cost calculated for Verace facilities and Chuí-Minuano facilities was divided, in the respective spreadsheets, by the total capacity considered by Schahin (426 MW), obtaining this way the unit cost per installed capacity, and then this was multiplied by the real installed capacity. In addition, the proposal for the electrical components comprises also all plants of the Wind farm Complex Santa Vitória do Palmar and Chuí. However, the proposal already presents the costs separated by group of wind power plants (costs of substations and transmission lines are presented separately for groups Verace and Chuí/Minuano; costs of trenching are presented separately for groups Verace, Chuí and Minuano). As the commercial proposal by ABB considers the implementation of a larger wind farm complex – which included wind farm Chuí III, here with 22MW, whose energy has not been contracted in the 13th Auction of New Energy – all prices regarding the Chuí facilities (substations, transmission line and trenching) have been weighted in order to consider only the plants that had their energy contracted at the auction. That is why these prices are

							multiplied by 144MW / (144MW + 22MW) (substations and transmission line) or by 98MW / (98MW + 22MW) (Trenching Chuí – without the capacity of Minuano plants). Costs regarding one of the items comprised by the ABB proposal, the ICG Santa Vitória do Palmar, are not separated between Verace and Chuí facilities. Therefore, it was necessary to multiply them by 144MW / (144MW + 258MW + 22MW), in order to calculate the correct proportion that should be attributed to each group of facilities. *Justification of Evidences:* the proposals, contracts and studies have been checked by the validation team. Further, the project activity has an investment around **US$ 2,158** per installed kW *(conversion rate on 2011-08-17: US$ 1.00 = R$ 1.58)*. When comparing this value with other wind farms investments per installed MW it is possible to conclude that the project activity has an investment comparable to the market value as can be cross checked with public and official sources, as can be verified below: • Examples of wind projects in Brazil:

Title	MW	US$/kW
Osório Wind Power Plant[1]	50	**6,584**
Rio do Fogo Wind Farm	49.3	**1,962**

Bom Jardim and Agua Doce Wind Farm	222	**3,294**
Pedra do Sal Wind Farm[2]	18	**3,565**

[1] CDM registered project Ref. # 0603;

[2] CDM registered project Ref. # 0693.

- Specialized literature:

- Financing Renewable Energy in the European Energy Market – Final Report by Ecofys, Fraunhofer ISI, TU Vienna EEG and Ernst & Young (2011): price in Europe: from US$ 1,504/kw to US$ 2,039/kw;

- IEA Wind Task 26 Final Report – National Renewable Energy Laboratory (NREL) – (2011) – Price of Reference Case taking into account the values of Denmark, Germany, Netherlands, Spain, Sweden, Switzerland and United States: US$ 2,014/kw.

By this comparison, the weighted average value of total investment in wind farms in Brazil is around US$ 3,600 per installed kW and the present project activity presents an investment similar to European and American projects, even with foreigner technology and know-how. Therefore, the total investment presented is assessed as adequate by the validation team.

Conclusion: the total investment has been evidenced and this has been considered reasonable and consistent by the validation

								team. All calculations have been demonstrated in the Financial Analysis and the evidences have been presented to validation team. In addition, the comparison of the investment value with other wind farms investments, official sources of information and specialized articles reveals that the used investment values of the project activity are compatible with the market and official sources, in line with paragraph 111 (b) of the VVM 1.2. As per the DOE's understanding the value used for the investment analysis is adequate and conservative and can be assessed as valid at the time of the management decision and compatible with the wind farms market in Brazil.
Plant Load Factor	Chuí I	51.3	%	Technical Report Layout and Energy Generation Estimation – MegaJoule	/PLF/	☒	☒	*Description:* the values certified by third party (MegaJoule) as a guarantee percentage of energy that will be generated. The values are from the study of generation estimation. *Justification of Evidences:* a third party's report has been analyzed. *Conclusion:* the values are consistent and the certification has been made by a third party and thus it is in line with EB 48, Annex 11.
	Chuí II	48.3						
	Chuí IV	47.7						
	Chuí V	50.1						
	Minuano I	51.6						
	Minuano II	48.9						
Energy Generation		626,760	MWh	Technical Report Layout and Energy	/PLF/	☒	☒	*Description:* the value is the total energy that will be generated by the Chuí-Minuano. The

			Generation Estimation – MegaJoule	/TD/			values are given by a certified third party's study. *Justification of Evidences:* a third party's report has been analyzed. *Conclusion:* the values are consistent since the input data are evidenced by a certified third party's study.
Electricity tariff	102.40	R$/MWh	Results of the 12th Auction of New Energy Technical Report Layout and Energy Generation Estimation – MegaJoule	/AUCTION/ /PLF/	☒	☒	*Description:* weighted average of the electricity price of the five plants given by the 12th Auction of New Energy. The weighted average price has been calculated using the energy price per plant and the net electricity to be dispatched to the grid. The wind simulations have been presented by a third party's study (Megajoule). The energy price per plant per MWh: - Chuí I: R$ 102.55; - Chuí II: R$ 102.89; - Chuí IV: R$ 102.91; - Chuí V: R$ 103.78; - Minuano I: R$ 101.34; - Minuano II: R$ 100.62. *Justification of Evidences:* the prices are the official result of the auction. The net energy is given by a third party. *Conclusion:* it is a fixed price that has been determined by the bid price and it is clear and official and valid for 20 years. It is adjusted annually by inflation, which is also considered

							in the financial spreadsheet and IRR calculation.
O&M costs – wind turbines	18,000.00 (1st to 5th years) 82,584.13 (6th to 10th years) 90,842.54 (from the 11th year)	R$/ wind generator/year	Proposal of Supply of Wind Generators – Impsa Wind Proposal of Extended Warrant and O&M for five years for the Wind Generators – Impsa Wind Proposal of discount for the Supply of Wind Generators and O&M – Impsa Wind	/FD/	☒	☒	*Description:* O&M costs per wind generator per period of years given by the supplier with the discount proposed later on. The value has been negotiated by the PPs and supplier. There is also a discount of 10% over those values as per the Proposal of Discount negotiated with Impsa. If the Extended Warrant has not been contracted, the discount would not be applied and the total Opex would be higher. *Justification of Evidences:* the proposals between the supplier and PP were checked. *Conclusion:* it is a fixed value established per period of years (as shown at the values column) given by the agreement that set the purchase and maintenance of the wind generators. The values are negotiated within the same package of the purchase of the wind generators. In addition, when calculated the total O&M (wind turbines and administrative costs), the amount represents an average over 20 years of 1.2% per year of the total investment which is adequate to the type of project. The market value for O&M costs is from 3% to 5% according to specialized literature (i.e. (http://www.windpowermonthly.com/news/1010136/Breaking-down-cost-wind-turbine-maintenance/).

Administrative costs	962,928	R$/year	Project developer's estimate	/IRR/ /RENOVA/	☒	☒	*Description:* all costs related to the administration of the project activity. It is an estimate of the PPs. *Justification of Evidences:* estimates based on PP's experience in other similar projects. *Conclusion:* it is a value proportional to the installed capacity of the complex. It is calculated in approximately R$ 6,687/MW/year. This value is assessed as a market value and can be cross-checked with Renova Energia (publicly traded company focused on wind energy projects) which presented an average administrative costs in its portfolio of approximately R$ 6,700/MW for a nominal capacity of more than 2,100 MW.
Benchmark	14.75	%	Daily Return of BMF&Bovespa's Electric Power Index of companies that compose BM&FBovespa's IEE – *at BM&FBovespa website* IBovespa and IEE daily returns – *at BM&FBovespa website* IPCA index – *at Ipeadata website*	/FD/ /fazenda/ /bmfbovespa/ /ipea/ /bcb/ /BNDES/	☒	☒	*Description:* the chosen benchmark is the cost of equity calculated in real terms according to the Capital Asset Pricing Model (input data include publicly available data and standard parameters of the Brazilian and utilities market). It is calculated by the formula: $K_e = R_f + \beta (R_m - R_f)$. Risk free rate: - Long Term Brazilian Treasury Bond (type NTN-B) of years 2006 (from August), 2007, 2008, 2009, 2010 and 2011 (until July); - Rationale: Treasury bond NTN-B (maturity date: 15th of May 2035), which is a long term bond that reflects a comparable horizon to an

			NTN-B Treasury Bond daily returns – *at Federal Revenue Bureau of Brazil website* Presentation for funding Renewable Energy Projects – BNDES				investment in a wind energy project in Brazil. *Beta*: investment risk compared to the market (dimensionless). It is estimated as a proxy and measured as the sensitivity of the assets returns to market returns calculated through equation Covariance of the Asset Return (IEE – Electricity Index Return) and the Market Return (Ibovespa Return) divided by the Variance of Market Return (Ibovespa Return). The *Beta* calculations are considered adequate for the type especially because after the first calculation, *Beta* is unleveraged and leveraged again to reflect the investment risk compared to the market in a more accurate way taking into account conditions of larger and differently financially structured companies. All data about the companies are public and available at the website of the Securities and Exchange Commission of Brazil – CVM – (http://www.cvm.gov.br/port/redir.asp?subpage=outrainformacao). Expected Return on a Risky Asset (Market Return): - Daily Return of Bovespa Index of years 2006 (from August), 2007, 2008, 2009, 2010 and 2011 (until July); - Rationale: Bovespa Index, which is the only stock market in Brazil. Used data for Expected Return on an Energy

							Sector Asset: - Daily Return of Bovespa Index of years 2006 (from August), 2007, 2008, 2009, 2010 and 2011 (until July); - Rationale: BMF&Bovespa's Electric Power Index (IEE), which is the best proxy for electric energy project returns. Inflation: official data from IBGE (Brazilian official Institute of Geography and Statistics; Debt and Equity Ratio: 36.5% Equity / 63.5% Debt – actual average debt and equity ratio applied to the project activity in accordance with the applied ratio of wind projects financed by BNDES, according to BNDES presentation dated 2 days before the energy Auction (investment decision). *Justification of Evidences:* the websites and related documents and guidance were checked. *Conclusion:* the chosen benchmark for the Equity IRR (Cost of Equity) was deemed appropriate by the validation team and in accordance with the "Guidelines on the Assessment of Investment Analysis" (Version 05), paragraph 12: "Required/expected returns on equity are appropriate benchmarks for equity IRR". It is calculated according to the Capital Asset Pricing Model with public and consolidated available information as input data and it is

							calculated in line with EB62 Annex 5.
Period of Assessment	20	Years	Manual of Asset Control of Electric Sector – page 215 – item 590 PPA	/LIFE/ /AUCTION/	☒	☒	*Description:* it is the operational lifetime of the project activity as given by technical guidelines of ANEEL and it is the period of the PPA contract. *Justification of Evidences:* technical guidelines of ANEEL and auction rules were checked. *Conclusion:* official guidelines for the PPA contract and operational lifetime of the wind turbines.
Land lease	1.8	% net revenues	Land lease contracts	/FD/	☒	☒	*Description:* the cost of the lease of the land, where the project activity is located. For the five plants, several land lease contracts have been signed between the land owners and the project developer. All of them establish a payment of 1.8% of the net revenues during the explotation phase of the project. *Justification of Evidences:* the land lease contracts have been checked. *Conclusion:* the value is stated in a clause of the lease land contracts.
TUST	5.402 (1st year); 5.126 (2nd year); 4.849 (3rd year); 4.572 (4th year); 4.296 (5th	R$/kW/month	Law # 10438 Law # 10762 Normative Resolution # 77 - ANEEL Homologation Resolution # 1179 - ANEEL	/LEGIS/ /unfccc/	☒	☒	*Description:* it is a fee charged monthly by ANEEL over the use of transmission line. The value is calculated based on the installed kW. The Resolution has a decreasing table of values during the contracted years of energy generation (from July of one year until June of the following year). Although the project activity is eligible for an incentive created by ANEEL which determines a reduction of 50%

	year); 4.019 (6th year); 3.742 (7th – 20th years)		EB 22 – Annex 3 – paragraph 7b EB 27 – Annex 1				on tariffs for the use of electrical systems for transmission and distribution by hydroelectric developments and for those based on solar, wind, biomass or qualified cogeneration, where the power injected into the transmission and distribution systems is less than or equal to 30,000 kW, this was not used in the financial analysis as it was created after the adoption of the CDM M&P. Hence, it is an E- policy according to EB 22 – Annex 3 – paragraph 7b. *Justification of Evidences:* it is an official fee charged regulated Laws #10438 and 10762 and Normative Resolution # 77. E- policies are regulated by EB 22 – Annex 3 and EB 27 – Annex 1. *Conclusion:* the values are correctly applied according to Brazilian specific legislation and EB guidance.
TFSEE	1.93	R$/kW/y	Decree # 2410 – Article 3 Dispatch # 4080 – ANEEL	/LEGIS/	☒	☒	*Description:* it is a fee paid over the annual income resulted from the generation service. It is charged in Brazil by the ANEEL. It is 0.5% of the annual typical unitary economic benefit which is R$ 385.73 per installed kW. *Justification of Evidences:* ANEEL regulation was checked. *Conclusion:* the value is established by ANEEL's Dispatch # 4080.
Non-capitalized portion of TJLP	6	%	BNDES rules	/BNDES/	☒	☒	*Description:* rules and data available for the loan calculations. As BNDES is the Brazilian

Basic spread	0.9	%	Presentation for funding Renewable Energy Projects – BNDES Manual of Long Term Index Rate (TJLP) – BNDES	/bndes/	☒	☒	government financing agent for infrastructure activities, its loan conditions are usually the most attractive of the Brazilian market and present the directives for other banks. The credit risk spread was estimated by the PP based on the risk of the project and on their market expertise in similar projects. The range of risk spread of BNDES is from 0.46% to 3.57% per year, thus the value of 1.6% is a conservative estimate (as the average value would be 2.015%) *Justification of Evidences:* the BNDES website and presentations were checked. *Conclusion:* the values are clearly and publicly stated and they met BNDES rules for loan. The PP's estimates for credit risk spread have been considered conservative by the validation team.
Credit risk spread	1.6	%			☒	☒	
Amortization period	16	years			☒	☒	
Grace period	6	months			☒	☒	
BNDES Reserve account coverage	3	months			☒	☒	
Average Long Term Interest Rate (TJLP) - 2010 and 2011	6.0 (2010-2011) 5.5 (2012-2013) 5.0 (20114 onwards)	%	BNDES website PP's estimates	/bndes/	☒	☒	*Description:* actual values for 2010 and 2011 and estimates for the following years. *Justification of Evidences:* the BNDES website was checked. The rationale for decreasing taxes is in line with slightly decreasing trajectory of Brazilian interest rates and it is conservative. *Conclusion:* official BNDES rate and conservative market estimates.
PIS/PASEP, Cofins	3.65	%	Normative Instruction # 247 – Article 52	/LEGIS/ /fazenda/	☒	☒	*Description:* Brazilian tributes are charged over the company's assumed profit (companies with gross revenue below R$ 48

Income Tax	15	%	Law # 9249 – Article 3 Law # 9430 – Article 2 Law # 10637 – Article 46	/LEGIS/ /fazenda/	☒	☒	million can apply the modality of tax call "Assumed profit tax regime"). As the project activity is divided in five plants and each one is owned by a different company, the gross revenues of each one remains below the limit of R$ 48 million and so all of them are eligible for the Assumed Profit Regime. *Justification of Evidences:* the presumed profit and the taxes are calculated as follows: - PIS / PASEP (Social Integration Program): 0.65% of the gross profit; - COFINS (Contribution for Financing Social Security): 3% of the gross profit; - CSSL (Social Contribution): 9% of 12% of the gross profit; (assumed profit) - Income tax: 15% of 8% of the gross profit; (assumed profit) - Additional Income tax: 10% of the assumed profit (8%) which exceeds R$ 240 thousand/year. *Conclusion:* government taxes established by law. Each Specific Purpose Society created for each wind farm, can apply the assumed profit tax modality which is calculated over an assumed percentage over gross revenues.
Additional Income Tax	10	%	Law # 9430 – Article 2	/LEGIS/ /fazenda/	☒	☒	
CSLL	9	%	Law # 7689 – Article 3	/LEGIS/ /fazenda/	☒	☒	

Table A-3b: Assessment of Financial Parameters (EB 55 Annex 1, §§ 111, 112, 114/ in case financial parameters stem from FSR §113) – **Verace Complex**

☐	No financial parameters are used for additionality justification
☒	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
Installed Capacity	258	MW	Technical Report – Certification of wind measurement and energy production Wind Complex Verace – Inova Energy Gamesa wind generator G9X-2.0MW – Technical Specifications	/PLF/ /TD/	☒	☒	*Description:* the value is the sum of the total installed capacity in all six plants: - Verace I (20 MW); - Verace II (20 MW); - Verace III (26 MW); - Verace IV (30 MW); - Verace V (30 MW); - Verace VI (18 MW); - Verace VII (30 MW); - Verace VIII (26 MW); - Verace IX (30 MW); - Verace X (28 MW). *Justification of Evidences:* those values can

							be evidenced by the technical specifications of the wind generators' supplier and by the third parties studies of the energy production. *Conclusion:* the values are consistent since the certifications have been made by third parties and the values are the total amount of power of all wind generators.
Wind Turbines	574,785,836.64	R$	Proposal of Supply of Wind Generators – Gamesa	/FD/	☒	☒	*Description:* the total price for 129 wind turbines. The value is given by the supplier's renewed proposal that established the value for the auction. *Justification of Evidences:* the supplier's proposals have been checked. *Conclusion:* the total investment cost is consistent with supporting evidences provided and the value of total investment per installed capacity has been further cross-checked with public available data and other CDM projects (registered and under validation) resulting in the conclusion that the value is adequate to the project type context. Refer to the comparison presented below for Total investment.
Total Investment	822,300,789.54	R$	Proposal of Supply of Wind Generators – Gamesa Proposal for	/FD/	☒	☒	*Description:* total investment cost reported is composed of all costs of CAPEX. Several items have been described and supporting evidences submitted to validation team along with the financial analysis of the project. As a clarification, the proposal of Schahin Engenharia S.A. comprises all plants of the

			Infrastructure implementation – Schahin Proposal of the electrical implementation – ABB				Wind farm Complex Santa Vitória do Palmar and Chuí (Verace I to X, Chuí I to V, Minuano I and II). As the wind farm Chuí III was expected to have a nominal capacity of 24MW at that moment, the proposal refers to a 426MW Windfarm Complex (= 258MW + 144MW + 24MW). In order to calculate the correct proportion of the civil works costs due to each group of wind power plants, the nominal capacity of Verace facilities and Chuí-Minuano facilities was divided, in the respective spreadsheets, by the total capacity considered by Schahin (426 MW). In addition, the proposal for the electrical components comprises also all plants of the Wind farm Complex Santa Vitória do Palmar and Chuí. However, the proposal already presents the costs separated by group of wind power plants (costs of substations and transmission lines are presented separately for groups Verace and Chuí/Minuano; costs of trenching are presented separately for groups Verace, Chuí and Minuano). Costs regarding one of the items comprised by the ABB proposal, the ICG Santa Vitória do Palmar, are not separated between Verace and Chuí facilities. Therefore, it was necessary to multiply them by 258MW / (258MW + 144MW + 22MW), in order to calculate the correct proportion that should be attributed to each group of facilities. *Justification of Evidences:* the proposals,

							contracts and studies have been checked by the validation team. Further, the project activity has an investment around **US$ 2,017** per installed kW *(conversion rate on 2011-08-17: US$ 1.00 = R$ 1.58)*. When comparing this value with other wind farms investments per installed MW it is possible to conclude that the project activity has an investment comparable to the market value as can be cross checked with public and official sources, as can be verified below: • Examples of wind projects in Brazil:

Title	MW	US$/kW
Osório Wind Power Plant[1]	50	**6,584**
Rio do Fogo Wind Farm	49.3	**1,962**
Bom Jardim and Agua Doce Wind Farm	222	**3,294**
Pedra do Sal Wind Farm[2]	18	**3,565**

[1] CDM registered project Ref. # 0603;

[2] CDM registered project Ref. # 0693;

• Specialized literature:

- Financing Renewable Energy in the European Energy Market – Final Report by Ecofys, Fraunhofer ISI, TU Vienna EEG and Ernst & Young (2011): price in Europe: from US$ 1,504/kw to US$ 2,039/kw;

							- IEA Wind Task 26 Final Report – National Renewable Energy Laboratory (NREL) – (2011) – Price of Reference Case taking into account the values of Denmark, Germany, Netherlands, Spain, Sweden, Switzerland and United States: US$ 2,014/kw. By this comparison, the weighted average value of total investment in wind farms in Brazil is around US$ 3,600 per installed kW and the present project activity presents an investment similar to European and American projects, even with foreigner technology and know-how. Therefore, the total investment presented is assessed as adequate by the validation team. *Conclusion:* the total investment has been evidenced and this has been considered reasonable and consistent by the validation team. All calculations have been demonstrated in the Financial Analysis and the evidences have been presented to validation team. In addition, the comparison of the investment value with other wind farms investments, official sources of information and specialized articles reveals that the used investment values of the project activity are compatible with the market and official sources, in line with paragraph 111 (b) of the VVM 1.2. As per the DOE's understanding the value used for the investment analysis is adequate and conservative and can be assessed as

								valid at the time of the management decision and compatible with the wind farms market in Brazil.
Plant Load Factor	Verace I	44.3	%	Technical Report – Certification of wind measurement and energy production Wind Complex Verace – Inova Energy	/PLF/	☒	☒	*Description:* the values certified by third party (Inova) as a guarantee percentage of energy that will be generated. The values are from the study of generation estimation. *Justification of Evidences:* a third party's report has been analyzed. *Conclusion:* the values are consistent and the certification has been made by a third party and thus it is in line with EB 48, Annex 11.
	Verace II	43.2						
	Verace III	44.3						
	Verace IV	45.8						
	Verace V	43.2						
	Verace VI	43.9						
	Verace VII	44.3						
	Verace VIII	43.3						
	Verace IX	44.0						
	Verace X	45.2						
Energy Generation		998,984	MWh	Technical Report – Certification of wind measurement and energy production Wind Complex Verace – Inova Energy	/PLF/ /TD/	☒	☒	*Description:* the value is the total energy that will be generated by the Verace Complex. The values are given by a certified third party's study. *Justification of Evidences:* a third party's report has been analyzed. *Conclusion:* the values are consistent since the input data are evidenced by a certified

							third party's study.
Electricity tariff	98.22	R$/MWh	Results of the 12th Auction of New Energy Technical Report Layout and Energy Generation Estimation – MegaJoule	/AUCTION/ /PLF/	☒	☒	*Description:* weighted average of the electricity price of the five plants given by the 12th Auction of New Energy. The weighted average price has been calculated using the energy price per plant and the net electricity to be dispatched to the grid. The wind simulations have been presented by a third party's study (Inova). The energy price per plant per MWh: - Verace I: R$ 98.50; - Verace II: R$ 98.64; - Verace III: R$ 98.19; - Verace IV: R$ 97.74; - Verace V: R$ 98.21; - Verace VI: R$ 98.21; - Verace VII: R$ 98.47; - Verace VIII: R$ 97.86; - Verace IX: R$ 98.19; - Verace X: R$ 98.43. *Justification of Evidences:* the prices are the official result of the auction. The net energy is given by a third party. *Conclusion:* it is a fixed price that has been determined by the bid price and it is clear and official and valid for 20 years. It is adjusted annually by inflation, which is also considered

							in the financial spreadsheet and IRR calculation.
O&M costs – wind turbines	0.00 (1st to 5th years) 97,531 (6th to 10th years) 110,995 (11th to 15th years) 119,971 (16th to 20th years)	R$/ wind generator/year	Proposal of Supply of Wind Generators (Verace) – Gamesa	/FD/	☒	☒	*Description:* O&M costs per wind generator per period of years given by the supplier with the discount proposed later on. The value has been negotiated by the PPs and supplier. *Justification of Evidences:* the proposals between the supplier and PP were checked. *Conclusion:* it is a fixed value established per period of years (as shown at the values column) given by the agreement that set the purchase and maintenance of the wind generators. The values are negotiated within the same package of the purchase of the wind generators. In addition, when calculated the total O&M (wind turbines and administrative costs), the amount represents an average over 20 years of 1.5% per year of the total investment which is adequate to the type of project. The market value for O&M costs is from 3% to 5% according to specialized literature (i.e. (http://www.windpowermonthly.com/news/1010136/Breaking-down-cost-wind-turbine-maintenance/).
Administrative costs	1,725,246	R$/year	Project developer's estimate	/IRR/ /RENOVA/	☒	☒	*Description:* all costs related to the administration of the project activity. It is an estimate of the PPs. *Justification of Evidences:* estimates based on PP's experience in other similar projects.

							Conclusion: it is a value proportional to the installed capacity of the complex. It is calculated in approximately R$ 6,687/MW/year. This value is assessed as a market value and can be cross-checked with Renova Energia (publicly traded company focused on wind energy projects) which presented an average administrative costs in its portfolio of approximately R$ 6,700/MW for a nominal capacity of more than 2,100 MW.
Benchmark	14.75	%	Daily Return of BMF&Bovespa's Electric Power Index of companies that compose BM&FBovespa's IEE – *at BM&FBovespa website* IBovespa and IEE daily returns – *at BM&FBovespa website* IPCA index – *at Ipeadata website* NTN-B Treasury Bond daily returns – *at Federal Revenue Bureau of Brazil website* Presentation for funding	/FD/ /fazenda/ /bmfbovespa/ /ipea/ /bcb/ /BNDES/	☒	☒	*Description:* the chosen benchmark is the cost of equity calculated according to the Capital Asset Pricing Model (input data include publicly available data and standard parameters of the Brazilian and utilities market). It is calculated by the formula: $K_e = R_f + \beta (R_m - R_f)$. Risk free rate: - Long Term Brazilian Treasury Bond (type NTN-B) of years 2006 (from August), 2007, 2008, 2009, 2010 and 2011 (until July); - Rationale: Treasury bond NTN-B (maturity date: 15th of May 2035), which is a long term bond that reflects a comparable horizon to an investment in a wind energy project in Brazil. *Beta*: investment risk compared to the market (dimensionless). It is estimated as a proxy and measured as the sensitivity of the assets returns to market returns calculated through

			Renewable Energy Projects – BNDES				equation Covariance of the Asset Return (IEE – Electricity Index Return) and the Market Return (Ibovespa Return) divided by the Variance of Market Return (Ibovespa Return). The *Beta* calculations are considered adequate for the type especially because after the first calculation, *Beta* is unleveraged and leveraged again to reflect the investment risk compared to the market in a more accurate way taking into account conditions of larger and differently financially structured companies. All data about the companies are public and available at the website of the Securities and Exchange Commission of Brazil – CVM – (http://www.cvm.gov.br/port/redir.asp?subpage=outrainformacao). Expected Return on a Risky Asset (Market Return): - Daily Return of Bovespa Index of years 2006 (from August), 2007, 2008, 2009, 2010 and 2011 (until July); - Rationale: Bovespa Index, which is the only stock market in Brazil. Used data for Expected Return on an Energy Sector Asset: - Daily Return of Bovespa Index of years 2006 (from August), 2007, 2008, 2009, 2010 and 2011 (until July); - Rationale: BMF&Bovespa's Electric

							Power Index (IEE), which is the best proxy for electric energy project returns. Inflation: official data from IBGE (Brazilian official Institute of Geography and Statistics; Debt and Equity Ratio: 36.5% Equity / 63.5% Debt – actual average debt and equity ratio applied to the project activity in accordance with the applied ratio of wind projects financed by BNDES, according to BNDES presentation dated 2 days before the energy Auction (investment decision). *Justification of Evidences:* the websites and related documents and guidance were checked. *Conclusion:* the chosen benchmark for the Equity IRR (Cost of Equity) was deemed appropriate by the validation team and in accordance with the "Guidelines on the Assessment of Investment Analysis" (Version 05), paragraph 12: "Required/expected returns on equity are appropriate benchmarks for equity IRR". It is calculated according to the Capital Asset Pricing Model with public and consolidated available information as input data and it is calculated in line with EB62 Annex 5.
Period of Assessment	20	Years	Manual of Asset Control of Electric Sector – page 215 – item 590	/LIFE/ /AUCTION	☒	☒	*Description:* it is the operational lifetime of the project activity as given by technical guidelines of ANEEL and it is the period of the PPA contract.

			PPA	/			*Justification of Evidences:* technical guidelines of ANEEL and auction rules were checked. *Conclusion:* official guidelines for the PPA contract and operational lifetime of the wind turbines.
Land lease	1.8	% net revenues	Land lease contracts	/FD/	☒	☒	*Description:* the cost of the lease of the land, where the project activity is located. For the five plants, several land lease contracts have been signed between the land owners and the project developer. All of them establish a payment of 1.8% of the net revenues. *Justification of Evidences:* the land lease contracts have been checked. *Conclusion:* the value is stated in a clause of the lease land contracts.
TUST	5.409 (1st year); 5.132 (2nd year); 4.854 (3rd year); 4.577 (4th year); 4.299 (5th year); 4.022 (6th year); 3.744 (7th – 20th years)	R$/kW/month	Law # 10438 Law # 10762 Normative Resolution # 77 - ANEEL Homologation Resolution # 1179 - ANEEL EB 22 – Annex 3 – paragraph 7b EB 27 – Annex 1	/LEGIS/ /unfccc/	☒	☒	*Description:* it is a fee charged monthly by ANEEL over the use of transmission line. The value is calculated based on the installed kW. The Resolution has a decreasing table of values during the contracted years of energy generation (from July of one year until June of the following year). Although the project activity is eligible for an incentive created by ANEEL which determines a reduction of 50% on tariffs for the use of electrical systems for transmission and distribution by hydroelectric developments and for those based on solar, wind, biomass or qualified cogeneration, where the power injected into the transmission and distribution systems is less than or equal to 30,000 kW, this was not used in the financial analysis as it was created after

							the adoption of the CDM M&P. Hence, it is an E- policy according to EB 22 – Annex 3 – paragraph 7b. *Justification of Evidences:* it is an official fee charged regulated Laws #10438 and 10762 and Normative Resolution # 77. E- policies are regulated by EB 22 – Annex 3 and EB 27 – Annex 1. *Conclusion:* the values are correctly applied according to Brazilian specific legislation and EB guidance.
TFSEE	1.93	R$/kW/y	Decree # 2410 – Article 3 Dispatch # 4080 – ANEEL	/LEGIS/	☒	☒	*Description:* it is a fee paid over the annual income resulted from the generation service. It is charged in Brazil by the ANEEL. It is 0.5% of the annual typical unitary economic benefit which is R$ 385.73 per installed kW. *Justification of Evidences:* ANEEL regulation was checked. *Conclusion:* the value is established by ANEEL's Dispatch # 4080.
Non-capitalized portion of TJLP	6	%	BNDES rules Presentation for funding Renewable Energy Projects – BNDES Manual of Long Term	/BNDES/ /bndes/	☒	☒	*Description:* rules and data available for the loan calculations. As BNDES is the Brazilian government financing agent for infrastructure activities, its loan conditions are usually the most attractive of the Brazilian market and present the directives for other banks. *Justification of Evidences:* the BNDES website and presentations were checked.
Basic spread	0.9	%			☒	☒	
Credit risk spread	1.6	%			☒	☒	
Amortization period	16	years			☒	☒	

Grace period	6	months	Index Rate (TJLP) – BNDES		☒	☒	*Conclusion:* the values are clearly and publicly stated and they met BNDES rules for loan.
BNDES Reserve account coverage	3	months			☒	☒	
Average Long Term Interest Rate (TJLP) - 2010 and 2011	6.0 (2010-2011) 5.5 (2012-2013) 5.0 (20114 onwards)	%	BNDES website PP's estimates	/bndes/	☒	☒	*Description:* actual values for 2010 and 2011 and estimates for the following years. *Justification of Evidences:* the BNDES website was checked. The rationale for decreasing taxes is in line with slightly decreasing trajectory of Brazilian interest rates and it is conservative. *Conclusion:* official BNDES rate and conservative market estimates.
PIS/PASEP, Cofins	3.65	%	Normative Instruction # 247 – Article 52	/LEGIS/ /fazenda/	☒	☒	*Description:* Brazilian tributes are charged over the company's assumed profit (companies with gross revenue below R$ 48 million can apply the modality of tax call "Assumed profit tax regime"). As the project activity is divided in five plants and each one is owned by a different company, the gross revenues of each one remains below the limit of R$ 48 million and so all of them are eligible for the Assumed Profit Regime. *Justification of Evidences:* the presumed profit and the taxes are calculated as follows: - PIS / PASEP (Social Integration Program): 0.65% of the gross profit; - COFINS (Contribution for Financing Social Security): 3% of the gross profit; - CSSL (Social Contribution): 9% of 12% of
Income Tax	15	%	Law # 9249 – Article 3 Law # 9430 – Article 2 Law # 10637 – Article 46	/LEGIS/ /fazenda/	☒	☒	
Additional Income Tax	10	%	Law # 9430 – Article 2	/LEGIS/ /fazenda/	☒	☒	
CSLL	9	%	Law # 7689 – Article 3	/LEGIS/ /fazenda/	☒	☒	

							the gross profit; (presumed profit) - Income tax: 15% of 8% of the gross profit; (presumed profit) - Additional Income tax: 10% of the presumed profit (8%) which exceeds R$ 240 thousand/year. *Conclusion:* government taxes established by law. Each Specific Purpose Society created for each wind farm, can apply the assumed profit tax modality which is calculated over an assumed percentage over gross revenues.

ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis (EB 55 Annex 1, §118)

☒	No barrier parameters are used for additionality justification
☐	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
			☐	

ANNEX 5: OUTCOME OF THE GSCP

Table A-5: Outcome of the Global Stakeholder Consultation Process

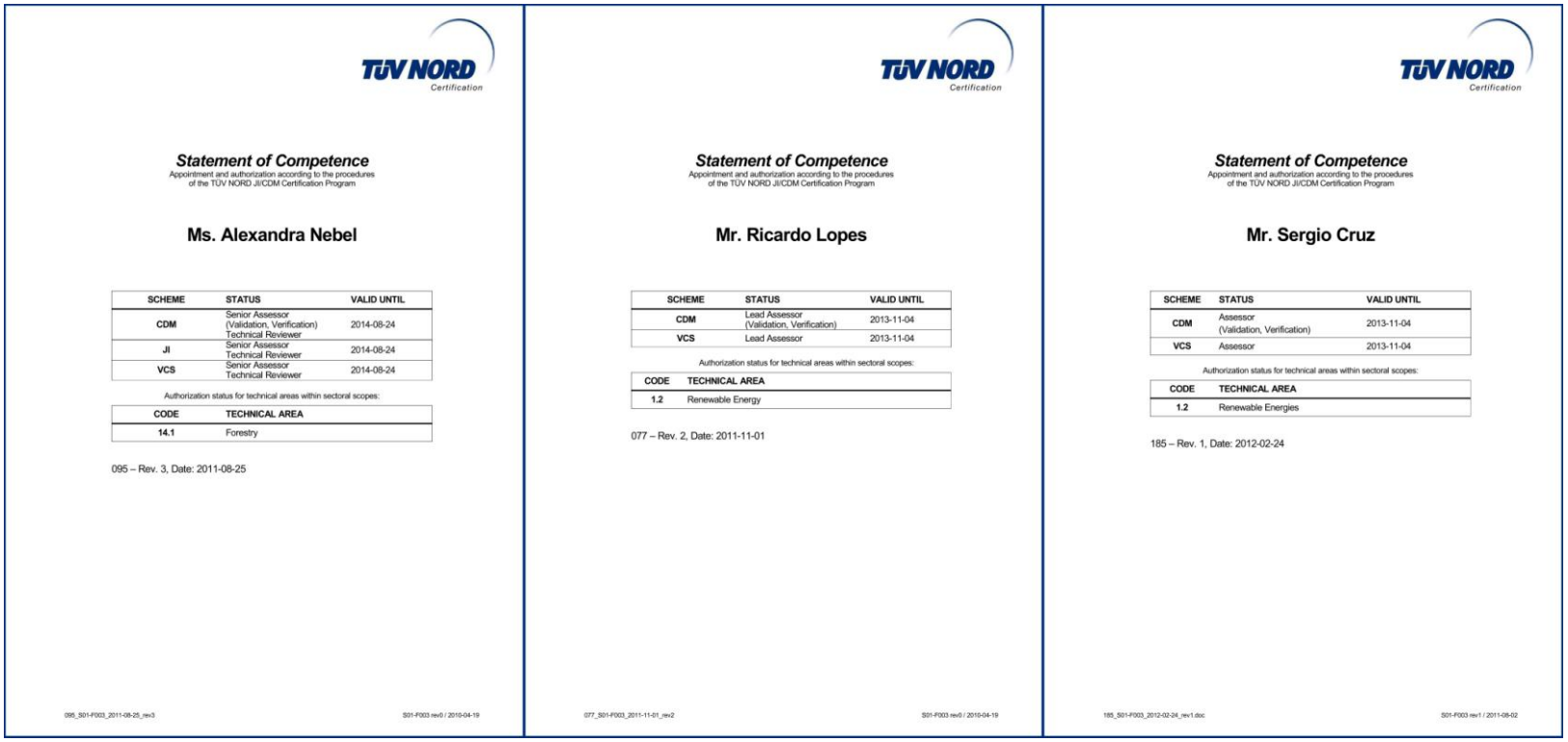
(§§ 40-42, VVM Version 1.2)

☒	No comments were received during the global stakeholder consultation period
☐	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 *)	Action taken by the validation team to take due account on the comment *)	Conclusion (incl. CARs CLs or FARs)

*) In case clarifications have been requested by the validation team corresponding rows shall be added

ANNEX 6: STATEMENTS OF COMPETENCE OF ALL INVOLVED PERSONNEL



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Ms. Alexandra Nebel

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2014-08-24
JI	Senior Assessor Technical Reviewer	2014-08-24
VCS	Senior Assessor Technical Reviewer	2014-08-24

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
14.1	Forestry

095 – Rev. 3, Date: 2011-08-25

095_S01-F003_2011-08-25_rev3 S01-F003 rev0 / 2010-04-19

TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Ricardo Lopes

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2013-11-04
VCS	Lead Assessor	2013-11-04

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energy

077 – Rev. 2, Date: 2011-11-01

077_S01-F003_2011-11-01_rev2 S01-F003 rev0 / 2010-04-19

TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Sergio Cruz

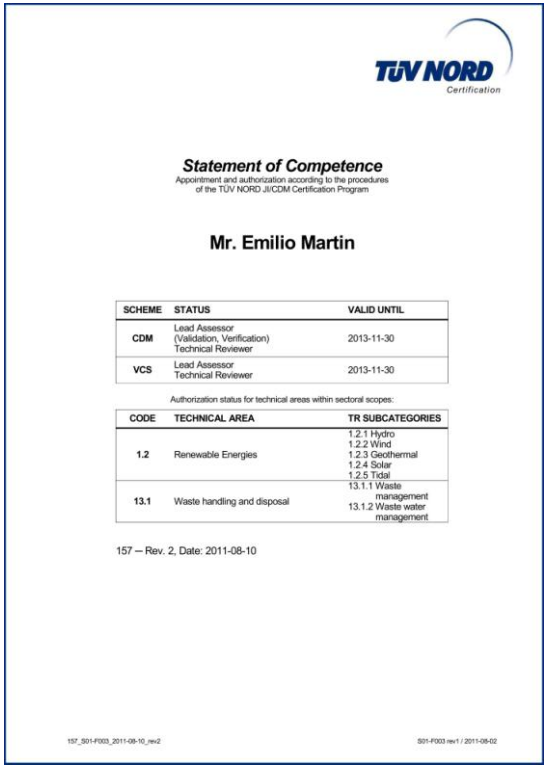
SCHEME	STATUS	VALID UNTIL
CDM	Assessor (Validation, Verification)	2013-11-04
VCS	Assessor	2013-11-04

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies

185 – Rev. 1, Date: 2012-02-24

185_S01-F003_2012-02-24_rev1.doc S01-F003 rev1 / 2011-08-02



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Emilio Martin

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2013-11-30
VCS	Lead Assessor Technical Reviewer	2013-11-30

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management

157 – Rev. 2, Date: 2011-08-10

157_S01-F003_2011-08-10_rev2 S01-F003 rev1 / 2011-08-02