



VERIFICATION AND CERTIFICATION REPORT

- 1ST PERIODIC –

CARBONBAY GMBH & Co. KG

LOS SANTOS WIND POWER PROJECT

UNFCCC REF. No. :6275

Monitoring Period: 2012-07-01 to 2014-06-30
(incl. both days)

Report No: 10915-14/088

Date: 2015-07-13

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Verification Report:	Report No.		Rev. No.	Date of 1st issue:	Date of this rev.	
	10915-14/088		0	2015-07-13	2015-07-13	
Project:	Title:		Registration date:	UNFCCC-No.:		
	Los Santos Wind Power Project		2012-06-11	6275		
			Verification No.:			
			1 st periodic verification			
	Crediting period:		From:	To:		
	<input checked="" type="checkbox"/> Renewable (7y) <input type="checkbox"/> Fixed (10y)		2012-07-01	2019-06-30		
Project Scale:						
<input type="checkbox"/> Large Scale <input checked="" type="checkbox"/> Small Scale						
Project Participant(s):	Client:					
	Carbonbay GmbH & Co. KG					
	Non Annex 1 country:			Annex 1 country:		
	Costa Rica			Germany		
	PP from non Annex 1 country:			PP from Annex 1 country:		
Cooperativa de Electrificación Rural Los Santos (COOPESANTOS)			Carbonbay GmbH & Co. KG			
Applied methodology/ies:	Title:		No.:	Scope(s) / TA(s)		
	Grid Connected renewable electricity generation		AMS-I.D.ver.17	01/1.2		
Monitoring period and monitoring report	Monitoring period (MP):			Monitoring Report:		
	From:	To:	No. of days:	Draft version:	Final version:	
	2012-07-01	2014-06-30	730	2014-08-11	2015-07-09	
Verification team / Technical Review and Final Approval:	Verification Team:			Technical review:	Final approval:	
	Raul Gonzalez Mitre Oliver Quireza (TM) (TL)			Martin Saalman, Stefan Winter	Martin Saalman	
Key dates of verification:	Publication of MR :		DVerR issued:	On-site (from):	On-site (to):	
	2014-08-14		2014-09-02	2014-09-01	2014-09-02	
Summary of Verification opinion	Carbonbay GmbH & Co. KG has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st periodic verification of the project: "Los Santos Wind Power Project", with regard to the relevant requirements for CDM project activities.					
	<p>As a result of this verification, the verifier confirms that:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> all operations of the project are implemented and installed as planned and described in the validated project design document, <input checked="" type="checkbox"/> the monitoring plan is in accordance with the applied approved CDM methodology, <input checked="" type="checkbox"/> the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately, <input checked="" type="checkbox"/> the monitoring system is in place and functional. The project has generated GHG emission reductions, and <input checked="" type="checkbox"/> the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. <p>TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as listed below (verified amount).</p>					
Emission reductions: [t CO _{2e}]	Total verified amount		As per draft MR:	As per PDD:		
	27,444		27,531	29,868		
			ER achieved up to	ER achieved from		

1st Periodic Verification and Certification Report: Los Santos Wind Power

Project

TÜV NORD JI/CDM Certification Program

R-No: 10915-14/088



		2012-12-31	2013-01-01
		6,524	20,920
Document information:	<i>Filename:</i>	<i>No. of pages:</i>	
	2015_07_13_FVR_Santos_CDM.docx	67	



Abbreviations:

CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO₂	Carbon dioxide
CO_{2eq}	Carbon dioxide equivalent
COOPESANTOS	Cooperativa de Electrificación Rural Los Santos
CL	Clarification Request
DVR	Draft Verification Report
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
ICE	Costa Rican Institute of Electricity
MP	Monitoring Plan
MR	Monitoring Report
O&M	Operation and Maintenance
PDD	Project Design Document
VT	Verification Team
WTG	Wind Turbine Generator

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1. INTRODUCTION

Carbonbay GmbH & Co. KG has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the 1st periodic verification of the project

“Los Santos Wind Power Project”

with regard to the relevant requirements for CDM project activities. The verifiers have reviewed the implementation of the monitoring plan (MP) in the registered CDM project.

GHG data for the monitoring period was verified in detailed manner applying the set of requirements, audit practices and principles as required under the Validation and Verification Standard ^{/VVS/} of the UNFCCC.

This report summarizes the findings and conclusions of this 1st periodic verification of the above mentioned UNFCCC registered project activity.

1.1. Objective

The objective of the verification is the review and ex-post determination by an independent entity of the GHG emission reductions. It includes the verification of the:

- implementation and operation of the project activity as given in the PDD,
- compliance with applied approved methodology and the provisions of the monitoring plan,
- data given in the monitoring report by checking the monitoring records, the emissions reduction calculation and supporting evidence,
- accuracy of the monitoring equipment,
- quality of evidence,
- significance of reporting risks and risks of material misstatements.

1.2. Scope

The verification of this registered project is based on the validated project design document ^{/PDD/}, the monitoring report ^{/MR/}, emission reduction calculation spread sheet ^{/XLS/}, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. Furthermore publicly available information was considered as far as available and required.

The verification is carried out on the basis of the following requirements, applicable for this project activity:

- Article 12 of the Kyoto Protocol ^{/KP/},
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1 ^{/MA/}, and subsequent decisions made by the Executive Board and COP/MOP,
- other relevant rules, including the host country legislation,



-
- CDM Validation and Verification Standard ^{/VVS/}
 - monitoring plan as given in the registered PDD ^{/PDD/},
 - Approved CDM Methodology.

2. GHG PROJECT DESCRIPTION

2.1. Technical Project Description

The project consists of fifteen 850kW GAMESA wind power turbines installed in Cooperativa de Electrificación Rural Los Santos (COOPESANTOS) concession area in El Guarco and Desamparados, Costa Rica. The total installed capacity is 12.75 MW.

The project activity utilizes 15 horizontal axis GAMESA G52-850 WTGs with a rated capacity of 850 kW each. The turbine lifetime according to the detailed datasheets for the GAMESA G52-850 is of 20 years. The project feasibility study calculated a plant load factor of 42.68% and the turbine supply contract guarantees a minimum of 42 GWh per year.

The key parameters of the project are given in Table 2-1.

Table 2-1: Technical data of the project activity

Parameter	Unit	Value
Operating data		
Total Power	MW	12.75
No. of turbines	-	15
Rated power	kW	850
Cut- in wind speed	m/s	4
Rated wind speed	m/s	13
Cut-off wind speed	m/s	25
Rotor		
Type	-	3 blades, Upwind /Horizontal axis
Diameter	M	52
Rotational speed at rated power	Rpm	14.6-30.8
Swept area	m ²	2,124
Gearbox		
Type	-	1 planetary stage / 2 helical stages
Ratio	1:1.74.5	1:74.5
Nominal Load	kW	850
Generator		
Type	-	Double feed generator
Speed at rated power	Rpm	1,320-2,340
Rated power	kW	850
Rated voltage	V AC	960 (phase to phase)
Frequency	Hz	60

2.2. Project Location

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

Table 2-2: Project Location

No.	Project Location
Host Country	Costa Rica
Region:	Cartago
Project location address:	In the districts of San Isidro and San Cristobal, km 40 of the Interamerican Sur Highway. Near the villages La Paz and Casamata
Latitude:	See table below
Longitude:	See table below

Los Santos WPP WTG location per WGS-84 in Decimal Degrees		
WTG	POINT X	POINT Y
1	-83.9885898	9.789753111
2	-83.9886097	9.788363483
3	-83.9894565	9.787312364
4	-83.9947281	9.780450124
5	-83.9950511	9.77956023
6	-83.9951443	9.778594054
7	-83.9953917	9.777811965
8	-83.9957289	9.777068665
9	-83.9891239	9.776567852
10	-83.9887975	9.775685129
11	-83.9786575	9.759992632
12	-83.9790184	9.759236338
13	-83.9789441	9.755217609
14	-83.9770491	9.754077072
15	-83.9771615	9.753203467

2.3. Project Verification History

Essential events since the registration of the project are presented in the following Table 2-3.

Table 2-3: Status of previous Monitoring Periods

#	Item	Time	Status
1	Date of registration	2012-06-11	-



#	Item	Time	Status
2	Start of crediting period	2012-07-01	-

An overview of all Post Registration Changes is given in the following table.

Table 2-4: Overview Post Registration Changes

#	Applicable from – to / as of	MP	Type of post registration change ¹⁾	Description	Status ²⁾ / Date
	N/A		N/A	N/A	N/A

- 1) TDfrMP : Temporary deviation from registered monitoring plan
 TDfMM : Temporary deviation from the monitoring methodology
 CrPDD : Corrections to the registered PDD
 PCfrMP : Permanent changes from registered Monitoring Plan
 PCfMM : Permanent changes from Monitoring Methodology
 CoPD : Changes to the project design of a registered project activity
- 2) Approval (by EB) or Acceptance (by DOE)

3. METHODOLOGY AND VERIFICATION SEQUENCE

3.1. Verification Steps

The verification consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the monitoring report
- A desk review of the Monitoring Report^{MR/} submitted by the client and additional supporting documents with the use of customised verification protocol^{/CPM/} according to the Validation and Verification Standard^{/VVS/},
- Verification planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft verification reporting
- Resolution of corrective actions (if any)
- Final verification reporting
- Technical review
- Final approval of the verification.

3.2. Contract review

To assure that

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

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

3.3. Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consisting of one team leader and 1 additional team members, was appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the Table 3-1 below.



Table 3-1: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Verification competence ⁵⁾	Host country Competence	On-site visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Raul Gonzalez Mitre	BRTÜV	TL	SA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Oliver Quireza Campos	BRTÜV	TM	LA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Stefan Winter	TUV NORD CERT	TR ^{B)}	SA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Martin Saalman	TUV NORD CERT	TR/ FA ^{B)}	SA	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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.

Statements of competence for the above mentioned team members are enclosed in annex 2 of this report.

3.4. Publication of the Monitoring Report

In accordance with the CDM M&P (§ 62) the draft monitoring report, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the verification activity commenced. Comments received are taken into account in the course of the verification, if applicable.

3.5. Verification Planning

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.



Various tools have been established in order to ensure an effective verification planning.

Risk analysis and detailed audit testing planning

For the identification of potential reporting risks and the necessary detailed audit testing procedures for residual risk areas table A-1 is used. The structure and content of this table is given in Table 3-2 below.

Table 3-2: Table A-1; Identification of verification risk areas

Table A-1: GHG calculation procedures and management control testing / Detailed audit testing of residual risk areas and random testing				
Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
<i>The following potential risks were identified and divided and structured according to the possible areas of occurrence.</i>	<i>The potential risks of raw data generation have been identified in the course of the monitoring system implementation. The following measures were taken in order to minimize the corresponding risks. The following measures are implemented:</i>	<i>Despite the measures implemented in order to reduce the occurrence probability the following residual risks remain and have to be addressed in the course of every verification.</i>	<i>The additional verification testing performed is described. Testing may include:</i> <ul style="list-style-type: none"> - Sample cross checking of manual transfers of data - Recalculation - Spreadsheet 'walk throughs' to check links and equations - Inspection of calibration and maintenance records for key equipment - Check sampling analysis results <i>Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.</i>	<i>Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties are highlighted.</i>

The completed table A-1 is enclosed in Annex 1 (table A-1) to this report.



Project specific periodic verification checklist

In order to ensure transparency and consideration of all relevant assessment criteria, a project specific verification protocol has been developed. The protocol shows, in a transparent manner, criteria and requirements, means and results of the verification. The verification protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet for verification
- It ensures a transparent verification process where the verifying DOE documents how a particular requirement has been proved and the result of the verification.

The basic structure of this project specific verification protocol for the periodic verification is described in Table 3-3.

Table 3-3: Table A-2; Structure of the project specific periodic verification checklist

Table A-2: Periodic verification checklist				
Checklist Item	Reference	Verification Team Comments	Draft Conclusion	Final Conclusion
<i>The checklist items in Table A-2 are linked to the various requirements the monitoring of the project should meet. The checklist is organised in various sections as per the requirements of the topic and the individual project activity. It further includes guidance for the verification team.</i>	<i>Gives reference to the information source on which the assessment is based on.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the verification team and how the assessment was carried out. The reporting requirements of the VVS shall be covered in this section.</i>	<i>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 verification stage.</i>	<i>In case of a corrective action or a clarification the final assessment at the final verification stage is given.</i>

The periodic verification checklist (verification protocol) is the backbone of the complete verification starting from the desk review until final assessment. Detailed assessments and findings are discussed within this checklist and not necessarily repeated in the main text of this report.

The completed verification protocol is enclosed in Annex 1 (table A-2) to this report.

3.6. Desk review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the PDD including the monitoring plan^{/PDD/},
- the last revision of the validation report^{/VAL/},
- documentation of previous verifications^{/VER/}

- the monitoring report, including the claimed emission reductions for the project^{/MR/},
- the emission reduction calculation spreadsheet^{/XLS/}.

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed.

3.7. On-site assessment

As most essential part of the verification exercise it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria. Furthermore the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. The main tasks covered during the site visit include, but are not limited to:

- The monitoring data were checked completely.
- An assessment of the implementation and operation of the registered project activity as per the registered PDD or any approved revised PDD;
- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- The data aggregation trails were checked via spot sample down to the level of the meter recordings.
- Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD;
- A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources;
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology and corresponding tool(s), where applicable;
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

Before and during the on-site visit the verification team performed interviews with the project participants to confirm selected information and to resolve issues identified in the document review.

Representatives of Cooperativa de Electrificación Rural Los Santos and operational staff of the plant were interviewed. The main topics of the interviews are summarised in Table 3-4.

Table 3-4: Interviewed persons and interview topics



Interviewed Persons / Entities	Interview topics
<ol style="list-style-type: none"> 1. Projects & Operations Personnel 2. Consultant 	<ul style="list-style-type: none"> - General aspects of the project - Technical equipment and operation - Changes since validation / previous verification - Monitoring and measurement equipment - Remaining issues from validation/ previous verification - Calibration procedures - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - GHG emission reduction calculation - Procedural aspects of the verification - Maintenance - Environmental aspects

The list of interviewees is included in chapter 7.4.

3.8. Draft verification reporting

On the basis of the desk review, the on-site visit, follow-up interviews and further background investigation the verification protocol is completed. This protocol together with a general project and procedural description of the verification and a detailed list of the verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CLs and FARs.

3.9. Resolution of CARs, CLs and FARs

Nonconformities raised during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CARs) are issued, if:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;

- Issues identified in a FAR during validation or previous verifications requiring actions by the project participants to be verified during verification have not been resolved.

The verification team uses the term Clarification Request (CL), which is issued if:

- information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

Forward Action Requests (FAR) indicate essential risks for further periodic verifications. Forward Action Requests are issued, if:

- the monitoring and reporting require attention and / or adjustment for the next verification period.

For a detailed list of all CARs, CLs and FARs raised in the course of the verification pl. refer to chapter 4.

3.10. Final reporting

Upon successful closure of all raised CARs and CLs the final verification report including a positive verification opinion can be issued. In case not all essential issues could finally be resolved, a final report including a negative verification opinion is issued.

The final report summarizes the final assessments w.r.t. all applicable criteria.

3.11. Technical review

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

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

3.12. Final approval

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

After this step the request for issuance can be started.



4. VERIFICATION FINDINGS

In the following paragraphs the findings from the desk review of the monitoring report^{/MR/}, the calculation spreadsheet^{/XLS/}, PDD^{/PDD/}, the Validation Report^{/VAL/} and other supporting documents, as well as from the on-site assessment and the interviews are summarised.

The summary of CAR, CL and FAR issued are shown in Table 4-1:

Table 4-1: Summary of CAR, CL and FAR

Verification topic	No. of CAR	No. of CL	No. of FAR
A – Description of project activity	0	0	0
B – Implementation of project activity	0	1	0
C – Description of monitoring system	0	1	0
D – Data and parameters	2	1	0
E - Calculation of Emission Reductions	0	0	0
SUM	2	3	0

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

Finding	CL B1		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR



Finding	CL B1						
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<ol style="list-style-type: none"> Further information regarding installed technology, technical process and equipment is missing in section B.1 according to the attachment of the CDM-MR-FORM. Furthermore information of relevant downtimes identified during site visit is also missing. As Mabannaft appears withdrawn, clarify why it is reported in front page and section A3 of the MR. The sum of figures from 2012 and 2013 does not exactly result in the total ER. There is one ton difference. PP is requested to correct this. 						
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i></p>	<ol style="list-style-type: none"> The MR was updated to include the requested data, see updated MR. Mabannaft has been deleted from the MR. The figures has been corrected, the sum now complies with the total value. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td><input checked="" type="checkbox"/> Changes in MR</td> <td>Section(s): B.1</td> <td>New version No.:2</td> </tr> <tr> <td><input type="checkbox"/> Changes in XLS</td> <td>Worksheet(s):</td> <td>New version No.:</td> </tr> </table>	<input checked="" type="checkbox"/> Changes in MR	Section(s): B.1	New version No.:2	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input checked="" type="checkbox"/> Changes in MR	Section(s): B.1	New version No.:2					
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:					
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments(#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> The included downtimes information is in line with to log books revised during the site visit. Furthermore the technical specification of the equipment is in line to the technical data sheet of the WTG. The PPs included in the MR are in line with the ones appearing in the UNFCCC website. The corrected values are in the MR are in line with the values calculated in the ER sheet. 						
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed						

Finding	CL C1
<p>Classification</p>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<ol style="list-style-type: none"> A metering diagram showing all relevant monitoring points is missing in section C. Section C, Point 1: It is described that the electricity is supplied to the cooperative. The surplus can be supplied to the national grid. It appears that two different recipients are applicable. Hence, two different documents (namely invoice to the grid operator and to the members of the cooperative) are applicable to determine the ERs. The PP is requested to clarify: <ol style="list-style-type: none"> Which are the prevailing figures for net electricity generation determination (measured values or invoice values); As per the PDD (page 25) the main value shall be determined from the receipts. PP is requested to clarify this, since it appears that the data is based on measured values



Finding	CL C1		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. The diagram was included in section C, based on a complete diagram available from the project activity and provided to the audit team. 2. A) the prevailing value is the one from the electricity meter. B) There is a typo mistake in the "data report" sentence (page 25 of the PDD), "control value" and "main value" were wrongly used. It is clear that the main value is taken from the electricity meter as stated in the table under B.7.1. of the PDD. Also under "data collection" (page 25) it is stated that the invoices will be used as cross check only.		
	<input checked="" type="checkbox"/> Changes in MR	Section(s):C	New version No.:2
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments(#2, #3, etc.) shall be added.</i>	1. The included diagram reflects the actual situation and is in line to the registered PDD and the technical specification included in the layout and technical feasibility study 2. Clarification provided by the PP is correct as the ER calculation was done in line with section B.7.1 and section "data Collection" (page 25) of PDD.		
	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CAR D1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Information of the backup meter Nexus is missing in Section D.2.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	Information about the Nexus meter was included in chapter D2.		
	<input checked="" type="checkbox"/> Changes in MR	Section(s): D2	New version No.:2
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments(#2, #3, etc.) shall be added.</i>	The included information about the meter Nexus is in line to the information observed at the meter label by the VT.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		



Finding	CL D2		
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. Information of calibration frequency of the energy meters is missing in section D.2 of the MR. Furthermore initial calibration date of ION meter is incorrect and calibration date of Nexus meter is missing. 2. Section D.2, PP is requested to clarify if the meters are of bidirectional type		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. Section D2 has been updated, including data about the backup meter and calibration dates. Evidence is provided to the audit team. 2. Yes, the meters are bidirectional.		
	<input checked="" type="checkbox"/> Changes in MR	Section(s):D2	New version No.:2
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments(#2, #3, etc.) shall be added.</i>	1. The calibration frequency included in the MR is in line to the local regulation RRG-2440-2001 which requires calibration every 5 years. Furthermore the included calibration of the ION meter is in line to the calibration certificate. Finally the included calibration of meter Nexus is in line to the calibration certificate. 2. The corrected MR specifies the type of meters (bidirectional).		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CAR D2		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. Data of energy generation used in the MR is incorrect as data of power (kW) instead of data of energy (kWh) was used. Furthermore energy consumption from the project office and other sources from the wind project (e.g. safety check points) were not considered in the calculation of NET quantity of energy generated. Energy consumption bills shall be provided. 2. Section D.2.: In the QA/QC procedures it is written that receipts will be utilized for double check. However, as per the PDD the receipts are the main source. Hence, PP is requested to clarify how the receipts can be utilized for double checking. 3. Section D.2.: in "Additional comment" PP did not show how the ER is calculated (refer to the PDD). Correction is requested. 4. The calibration gap of the backup meter is missing.		



Finding	CAR D2						
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i></p>	<ol style="list-style-type: none"> 1. The excel sheet has been updated and the consumption from the main office and the security houses was discounted from the electricity generation data. The bills for the electricity consumption are attached to this response. Furthermore, the generation data was also updated to be in line with the bills. Payment evidences are also attached. 2. As stated above, the one sentence in the PDD page 25 stating control value and main value is a typo mistake. The monitoring parameter in B.7.1 in the PDD and all other statements in B.7.2. clearly confirm that the value comes from the electricity meter and the invoice represents the cross-check. 3. A further statement has been included. 4. Information on the calibration gap has been included in the revised MR. 						
	<table border="1"> <tr> <td><input checked="" type="checkbox"/> Changes in MR</td> <td>Section(s):A1, D, E4</td> <td>New version No.:2</td> </tr> <tr> <td><input checked="" type="checkbox"/> Changes in XLS</td> <td>Worksheet(s): Sheet 1</td> <td>New version No.:2</td> </tr> </table>	<input checked="" type="checkbox"/> Changes in MR	Section(s):A1, D, E4	New version No.:2	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Sheet 1	New version No.:2
	<input checked="" type="checkbox"/> Changes in MR	Section(s):A1, D, E4	New version No.:2				
<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Sheet 1	New version No.:2					
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> 1. The corrected data applied in the ER calculation sheet is not in line to the raw data (Tabular reports 1,2,3). See comments in ER calculation sheet. Also clarify whether the electricity data in the excel sheet is in GWh or MWh. 2. The comment of the PP is correct as it is in line with the PDD. 3. Modified Section D.2 "Additional Comment" is correct as it is in line to the registered PDD. 4. The calibration gap has been included in section D.2. 						
<p>Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i></p>	<ol style="list-style-type: none"> 1. The excel sheet was updated; now all data is presented in Mwh. Furthermore, the data was updated and complies with the tabular report now. Initially, the electricity generation indicated in the invoices (sold electricity) was used for the ER calculations, but this was not correct, as not all the produced electricity is sold to the grid. Especially the generation at night cannot be sold to the grid. So the data from the tabular is correct, but taking into account the following issue: The data transfer from the meter to the SCADA system failed from 14.02.13 to 18.02.2013. Due to this error, the electricity generated during this period (518.04 MWh) was not included in the tabular report. The produced electricity was therefore downloaded directly from the server at the site in the wind park and not in the central office. The document "Perfiles PE Los Santos" is attached showing the downloaded data, the generation from the period described above shall be added to the tabular reports (data in kw, shall be divided by 4 to transfer to kwh). 						
	<table border="1"> <tr> <td><input checked="" type="checkbox"/> Changes in MR</td> <td>Section(s):A1, D, E4</td> <td>New version No.:3</td> </tr> <tr> <td><input checked="" type="checkbox"/> Changes in XLS</td> <td>Worksheet(s): Sheet 1</td> <td>New version No.:3</td> </tr> </table>	<input checked="" type="checkbox"/> Changes in MR	Section(s):A1, D, E4	New version No.:3	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Sheet 1	New version No.:3
	<input checked="" type="checkbox"/> Changes in MR	Section(s):A1, D, E4	New version No.:3				
<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Sheet 1	New version No.:3					



Finding	CAR D2
<p>DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments(#2, #3, etc.) shall be added.</i></p>	<p>1. The corrected data used for ER calculation is in line to the raw data (Tabular reports) and it is correct. The missing value (518.04 MWh) is correct as per raw data files and it has been included in the MR and ER calculation. The corrected energy units MWh are consistent in the MR. The management of data during the SCADA failure has been done appropriately as the raw data obtained from the meter was cross checked with the excel calculation sheet "Perfiles PE Los Santos" and no discrepancies were found.</p>
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed</p>

Finding	FAR D1		
Classification	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input checked="" type="checkbox"/> FAR
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>During the next verification it should be ensured that the back-up meter is replaced and/or duly calibrated.</p>		
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the MR is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i></p>	<p>This will be taken into account for the next verification.</p>		
	<input checked="" type="checkbox"/> Changes in MR	Section(s):D2	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments(#2, #3, etc.) shall be added.</i></p>			
<p>Conclusion <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the next periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed</p>		

5. SUMMARY OF VERIFICATION ASSESSMENTS

The following paragraphs include the summary of the final verification assessments after all CARs and CLs are closed out. For details of the assessments pl. refer to the discussion of the verification findings in chapter 4 and the verification protocol (Annex 1).

5.1. Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity.

Table 5-1: Project Parties and project participants

Characteristic	Party	Project Participant
Non-Annex 1	Costa Rica	Cooperativa de Electrificación Rural Los Santos (COOPESANTOS)
Annex 1	Germany	Carbonbay GmbH & Co. KG

5.2. Implementation of the project

During the verification a site visit was carried out. On the basis of this site visit and the reviewed project documentation it can be confirmed that w.r.t. the realized technology, the project equipments, as well as the monitoring and metering equipment, the project has been implemented and operated as described in the registered PDD.

By means of document review and the on-site visit it was verified, that the project activity involves the installation of 15 wind turbines with 850 kW capacity each, totalling 12.75 MW as per registered PDD.

5.3. Project history

During the validation the validating DOE might have raised issues that could not be closed or resolved during the validation stage. For this purpose FARs might have been raised. No such issues were identified for this project.

Furthermore as this is the 1st periodic verification no issues from former verifications are to be considered.

5.4. Post registration changes

No post registration changes applicable for this monitoring period have been observed during the monitoring period.

5.5. Compliance with the monitoring plan

The monitoring system and all applied procedures are completely in compliance to the registered monitoring plan.

The reporting procedures reflect the requirements of the monitoring plan. All relevant data is collected continuously and stored during the whole monitoring period. The monitoring consists of one main and a backup meters that register the electricity generation. All the energy raw data^{/EEG/} registered by the system were checked against the ER calculation sheet^{/EEG/}.

Data source and collection, data compilation, emission calculation, emission data review and approval and finally record keeping were checked accordingly by the verification team.

5.6. Compliance with the monitoring methodology

The monitoring system is in compliance with the applied monitoring methodology (AMS-I.D, version 17).

5.7. Monitoring parameters

During the verification the only monitoring parameter $EG_{\text{facility},y}$ (as described in chapter B.7.1 of the PDD) has been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. The results as well as the verification procedure are described parameter-wise in the project specific verification checklist.

Further the calibrations of the two power meters installed have been verified as listed in table given in Annex 3 to this report.

After appropriate corrections were carried out by the project participant it can be confirmed that the monitoring parameter has been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.

5.8. Monitoring report

A draft monitoring report was submitted to the verification team by the project participants. The team has made this report publicly available prior to the start of the verification activities. No comments were received.

During the verification, mistakes and needs for clarification were identified. The PP has carried out the requested corrections so that it can be confirmed that the Monitoring report is complete and transparent and in accordance with the registered PDD and other relevant requirements.

5.9. Sampling

5.9.1. Implementation of the sampling plan

No sampling was required to determine the monitored parameters.

5.9.2. Sampling approaches during verification

No sampling approaches were taken during the verification. As the data was cross checked by the VT using the totalized values per year in the calculation sheets and raw data no sampling was required.

5.10. ER Calculation

During the verification mistakes in the ER calculation were identified. A CAR was raised. A revised ER calculation was prepared by the PP and presented to the verification team. The raised issues were addressed appropriately so that the corresponding CAR could be closed out. Thus it is confirmed that the ER calculation is overall correct.

5.11. Quality Management

Quality Management procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel in the framework of this CDM project activity have been defined. Some relevant data was missing in the MR and supporting information so that 2 CAR were raised by the VT. However after proper correction from the PP it could be concluded that the QM procedures are appropriate for the purpose. No significant deviations thereof have been observed during the verification.



5.12. Actual emission reductions during the first commitment period and the period from 1 January 2013 onwards

The MR includes actual ER values achieved up to 31 December 2012 and actual values achieved from 1 January 2013 onwards as follows:

Table 5-2: Emission reductions before and after the end of 2012

	until 2012-12-31 ¹⁾	from 2013-01-01 ¹⁾	Sum
Emission reductions [tCO _{2e}]	6,524	20,920	27,444

¹⁾ Both days included

5.13. Comparison with ex-ante estimated emission reductions

The MR includes a comparison of the actual emission reductions with the ex-ante calculated values in the registered PDD.

The actual value was found to be proportionally lower than the ex-ante determined value, thus no further justification was required.

5.14. Overall Aspects of the Verification

All necessary and requested documentation was provided by the project participants so that a complete verification of all relevant issues could be carried out.

Access was granted to all installations of the plant which are relevant for the project performance and the monitoring activities.

The verification team got access to all relevant documentation regarding the monitoring of the emission reduction calculation, like:

- technical data of the measuring equipment;
- meter readings;
- electricity bills;
- raw data;
- calibration certificates;
- measurement devices;

All these documentation were checked and found to be consistent and of high quality.

No issues have been identified indicating that the implementation of the project activity and the steps to claim emission reductions are not compliant with the



UNFCCC criteria and relevant guidance provided by the COP/CMP and the CDM EB (clarifications and/or guidance).

5.15. Hints for next periodic Verification

A FAR has been raised in the course of this verification. It shall be considered during the next verification, if the back-up meter has been calibrated.

6. VERIFICATION AND CERTIFICATION STATEMENT

Carbonbay GmbH & Co. KG has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st periodic verification of the project: “Los Santos Wind Power Project”, with regard to the relevant requirements for CDM project activities. The project reduces GHG emissions due to substitution of electricity generation from fossil fuels. This verification covers the period from 2012-07-01 to 2014-06-30(including both days).

In the course of the verification 2 Corrective Action Requests (CAR) and 3 Clarification Requests (CL) were raised and successfully closed. Furthermore 1 FAR is raised. The verification is based on the draft monitoring report, revised monitoring report, the monitoring plan as set out in the registered PDD, the validation report, emission reduction calculation spreadsheet and supporting documents made available to the TÜV NORD JI/CDM CP by the project participant.

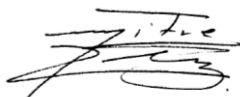
As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS-I.D.ver.17
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

As the result of the 1st periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Emission reductions: **27,444** t CO_{2e}

Mexico City, 2015-07-13



Raul Gonzalez Mitre

TÜV NORD JI/CDM Certification
Program

Verification Team Leader

Essen, 2015-07-13



Martin Saalman

TÜV NORD JI/CDM Certification
Program

Final Approval



7. REFERENCES

Table 7-1: Documents provided by the project participant(s)

Reference	Document
/EEG/	<p>Evidence of Energy Generation:</p> <ul style="list-style-type: none"> • Energy meter readings and reports downloaded directly from the manufacturer software; • Energy consumption bills (8 bills) • Debit notes (invoices)
/LAW/	<p><u>Legislation</u>:</p> <ol style="list-style-type: none"> 1. Electricity General Law given by Decree No. 93-96, 2007. 2. Regulation of the Electricity General Law given by Decree No. 93-96, 2007. 3. Regulation of the administrator of the majority market given by Decree No. 93-96, 2007. <p><u>Legislation</u>:</p> <ol style="list-style-type: none"> 4. Technical Norm for use, operation and control of electricity meters – AR-DTCON, 21-12-2001. <p><u>Permits & Licenses</u>:</p> <ol style="list-style-type: none"> 5. Environmental Resolution No. 344-2009-SETENA, 10/02/2009. 6. Environmental Resolution No. 2882-2010-SETENA, 30/11/2010.
/MR/	<ol style="list-style-type: none"> 1. Monitoring Report 1st “Los Santos Wind Power Project”, version 1.1, 2014/08/07. 2. Monitoring Report 1st “Los Santos Wind Power Project”, version 1.2, 2014/08/11. 3. Monitoring Report 1st “Los Santos Wind Power Project”, version 2, 2015/02/02. 4. Monitoring Report 1st “Los Santos Wind Power Project”, version 3, 2015/03/25. 5. Monitoring Report 1st “Los Santos Wind Power Project”, version 3.1, 2015/04/22. 6. Monitoring Report 1st “Los Santos Wind Power Project”, version 3.2, 2015/05/29. 7. Monitoring Report 1st “Los Santos Wind Power Project”, version 3.3, 09/07/2015



Reference	Document
/O&M/	<ol style="list-style-type: none"> 1. Alarms Report extracted by the SCADA system 2. Monthly Report of performed works - GAMESA
/PROC/	Operational Procedures and Trouble Shooting by GAMESA
/TECH/	<ol style="list-style-type: none"> 1. Technical specification brochure of WTG Gamesa 850 KW. 2. WTG supply contract signed between COOPESANTOS, R.L and GAMESA EOLICO, S.L., 30/12/2009 3. Geographical location of the project Los Santos, June 2010. 4. PowerLogic ION 7650 – Energy and power quality meter – Installation Guide Num. 70002-0247-14, 06/2010. 5. Single line diagram Los Santos project, April 2011, rev. 16
/XLS/	Emission reduction calculation spreadsheet

Table 7-2: Background investigation and assessment documents

Reference	Document
/AMS/	AMS-I.D.ver.17, “Grid Connected renewable electricity generation”
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GLMP/	Guidelines: Completing the monitoring report form (EB 70, Annex 11)
/IPCC/	<ol style="list-style-type: none"> 1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)
/MRT/	Guidance for completing the monitoring report form, version 4.
/PDD/	Project Design Document for CDM project: “Los Santos Wind Power Project” version 3.6, dated 2012-04-23.
/PS/	CDM Project Standard (Version 7.0)

Reference	Document
/VAL/	Validation Report for CDM project "Los Santos Wind Power Project" version 2, dated 2012-06-07.
/VVS/	CDM Validation and Verification Standard (Version 09.0)

Table 7-3: Websites used

Reference	Link	Organisation
/dna-hp/	www.minae.go.cr/	DNA Costa Rica - Ministeriodel Ambiente y Energia (MINAE)
/dna-op/	www.government.nl/ministries/ienm	DNA Netherlands - Ministry of Infrastructure and the Environment / Directorate for Climate, Air and Noise
/dna-op/	www.dehst.de/EN/Climate-Projects/climate-projects_node.html	DNA Germany - German Emissions Trading Authority
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Jeffrey Luna	General Manager - COOPESANTOS
/IM01/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Raquel Fallas F.	Environment Manager - COOPESANTOS
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Ronald Castillo	Generation Assistant - COOPESANTOS
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Olger Robles	O&M Chief - COOPESANTOS
/IM02/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Sergio Degener	Consultant – Anaconda Carbon

1st Periodic Verification and Certification Report: Los Santos Wind Power
Project

TÜV NORD JI/CDM Certification Program

R-No: 10915-14/088



¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

- A1:** Verification Protocol
- A2:** Calibration dates and validity of installed monitoring equipment
- A3:** Statements of Competence of involved Personnel



ANNEX1: VERIFICATION PROTOCOL

Table A-1:GHG calculation procedures and management control testing / detailed audit testing of residual risk areas and random testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
Raw data generation				
<ul style="list-style-type: none"> • Installation of measuring equipment • Dysfunction of installed equipment • Maloperation by operational personnel • Downtimes of equipment • Exchange of equipment • Change of measurement equipment characteristic • Insufficient accuracy • Change of technology 	<ul style="list-style-type: none"> • Installation of modern and state of the art equipment • Process control automation • Internal data review • Regular visual inspections of installed equipment • Only skilled and trained personnel operates the relevant equipment • Daily raw data checks • Immediate exchange of dysfunctional equipment • Stand-by duty is 	<ul style="list-style-type: none"> • Inadequate installation / operation of the monitoring equipment • Inadequate exchange of equipment • Change of personnel • Undetected measurement errors • Inappropriateness of Management system procedures w.r.t. monitoring plan requirements (e.g. substitute value strategies) • Non-application of management system procedures • Insufficient accuracy • Inappropriate QA/QC 	<ul style="list-style-type: none"> • Site – visit • Check of equipment • Check of technical data sheets • Check of suppliers information / guarantees • Check of calibration records, if applicable • Check of maintenance records • Counter-check of raw data and commercial data • Check of CDM management system • Check of CDM related procedures 	<ul style="list-style-type: none"> • See Table A-2



Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
<ul style="list-style-type: none"> Accuracy of values supplied by Third Parties 	<ul style="list-style-type: none"> organized Training Internal audit procedures Internal check of QA/QC measures of involved Third Parties 	<ul style="list-style-type: none"> measures of Third Parties 	<ul style="list-style-type: none"> Application of CDM management system procedures Check of trainings Check of responsibilities Check of QA/QC documentation / evidences of involved Third Parties 	
Raw data collection and data aggregation				
<ul style="list-style-type: none"> Wrong data transfer from raw data to daily and monthly aggregated reporting forms IT Systems Spread sheet programming Manual data transmission Data protection Responsibilities 	<ul style="list-style-type: none"> Cross-check of data Plausibility checks of various parameters. Appropriate archiving system Clear allocation of responsibilities Application of CDM Management system procedures Usage of standard software solutions 	<ul style="list-style-type: none"> Unintended usage of old data that has been revised Incomplete documentation Ex-post corrections of records Ambiguous sources of information Non-application of management system procedures Manual data transfer mistakes 	<ul style="list-style-type: none"> Check of data aggregation steps Counter-calculation Data integrity checks by means of graphical data analysis and calculation of specific performance figures Check of management system certification Check of data archiving system 	<ul style="list-style-type: none"> See Table A-2



Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
	(Spreadsheets) <ul style="list-style-type: none"> Limited access to IT systems Data protection procedures 	<ul style="list-style-type: none"> Unintended change of spread sheet programming or data base entries Problems caused by updating/upgrading or change of applied software 	<ul style="list-style-type: none"> Check of application of Management system procedures 	
Other calculation parameters				
<ul style="list-style-type: none"> Emission factors, oxidation factors, coefficients 	<ul style="list-style-type: none"> The values and data sources applied are defined in the PDD and monitoring plan 	<ul style="list-style-type: none"> Unintended or intended Modification of calculation parameters Wrong application of values Misinterpretations of the applied methodology and/ or the PDD Missing update of applicable regulatory framework (e.g. IPCC values) 	<ul style="list-style-type: none"> Update-check of regulatory framework Countercheck of the applied MP in the MR against the methodology and the PDD 	<ul style="list-style-type: none"> See Table A-2
Calculation Methods				



Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i>)
<ul style="list-style-type: none"> Applied formulae Miscalculation Mistakes in spreadsheet calculation 	<ul style="list-style-type: none"> Advanced calculation and reporting tools A CDM coordinator is in charge of the CDM related calculations Usage of tested / counterchecked Excel spreadsheets Involvement of external consultants 	<ul style="list-style-type: none"> The danger of miscalculation can only be minimized. 	<ul style="list-style-type: none"> Countercheck on the basis of own calculation. Spread sheet walk-through. Plausibility checks Check of plots 	<ul style="list-style-type: none"> See Table A-2
Monitoring reporting				
<ul style="list-style-type: none"> Data transfer to the author of the monitoring report Data transfer to the monitoring report Unintended use of outdated versions 	<ul style="list-style-type: none"> An experienced CDM consultant is responsible for monitoring reporting. CDM QMS procedures are defined 	<ul style="list-style-type: none"> The danger of data transfer mistakes can only be minimized Inappropriate application of QMS procedures 	<ul style="list-style-type: none"> Counter check with evidences provided. Audit of procedure application 	<ul style="list-style-type: none"> See Table A-2



Table A-2:(Project specific) Periodic Verification Checklist

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
A. Description of the project activity				
<p>A.1. Purpose and general description of the project activity (F-CDM-FORM, Attachment, A.1)</p> <p><i>Check if section A.1 of the MR includes the following:</i></p> <ul style="list-style-type: none"> - Purpose of the PA and the measures taken to reduce GHG emissions - Brief description of the installed technology and equipment - Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods etc.) - Total emission reductions achieved in this monitoring period 	/MR/	<p>The verification team has checked section A.1 of the MR and confirms that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Purpose of the PA and the measures taken to reduce GHG emissions <input checked="" type="checkbox"/> Brief description of the installed technology and equipments <input checked="" type="checkbox"/> Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods etc) <input checked="" type="checkbox"/> Total emission reductions achieved in this monitoring period <p>In this context the following findings have been identified: N/A</p>	OK	OK
<p>A.2. Location of project activity (F-CDM-FORM, Attachment, A.2)</p> <p><i>Check if section A.2 of the MR reflects correctly the following:</i></p> <ul style="list-style-type: none"> - Host Party(ies) - Region / State / Province etc. - City / Town / Community etc. 	/MR/ /PDD/ /IM01/	<p>The verification team has checked section A.2 of the MR and confirms by means of comparison with the information given in the PDD and information gathered during the site visit that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Host Party(ies) <input checked="" type="checkbox"/> Region / State / Province <input checked="" type="checkbox"/> City / Town / Community 	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
- <i>Physical / geographical location (e.g. Latitude and Longitude)</i>		<input checked="" type="checkbox"/> Physical / Geographical location In this context the following findings have been identified: N/A		
A.3. Parties and Project Participants (F-CDM-FORM, Attachment, A.3) Check if section A.3 of the MR includes the following: <ul style="list-style-type: none"> - All PPs as displayed on the UNFCCC website - A correctly filled table as per the MR template 	/MR/ /unfccc/	The verification team has checked section A.3 of the MR as well as the UNFCCC website and confirms that: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> all PPs as displayed on the project related UNFCCC website are correctly listed <input checked="" type="checkbox"/> the table as per the template MR has been correctly filled In this context the following findings have been identified: N/A	OK	OK
A.4. Reference of applied methodology (F-CDM-FORM, Attachment, A.4) Check if section A.4 of the MR correctly describes / includes the following: <ul style="list-style-type: none"> - Reference to the applicable version of the methodology - Reference to the applicable version(s) of relevant methodological tools - Relevant EB decisions, if applicable 	/MR/ /PDD/ /unfccc/	The verification team has checked section A.4 of the MR and confirms by means of comparison with the information given in the PDD and displayed on the UNFCCC website that the information provided is complete and correct with regards to the following: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Number, title and version of the applicable CDM Methodology <input checked="" type="checkbox"/> Name and version of applicable CDM methodological tools <input checked="" type="checkbox"/> Relevant EB decisions In this context the following findings have been identified:	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		N/A		
<p>A.5. Crediting period of project activity (F-CDM-FORM, Attachment, A.5)</p> <p><i>Check if section A.5 of the MR correctly includes the following:</i></p> <ul style="list-style-type: none"> - <i>Start date of the crediting period. In this context please check, if applicable, whether post registration changes to the start date have been accepted by the EB.</i> - <i>Length and type of the crediting period</i> 	/MR/ /unfccc/	<p>The verification team has checked section A.5 of the MR and confirms by means of comparison with the information displayed on the UNFCCC website that the information provided is complete and correct with regards to the following:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Start date of the crediting period. <input checked="" type="checkbox"/> Type and length of the crediting period <p>In this context the following findings have been identified: N/A</p>	OK	OK
<p>A.6. Publication of the Monitoring Report (VVS, § 243)</p> <p><i>Check if the monitoring report has been made publicly available on the UNFCCC website before the verification commenced.</i></p> <p><i>Check if comments have been received and if yes, how they have been addressed.</i></p>	/unfccc/	<p>The verification team has ensured and confirms by means of checking the respective project information on the UNFCCC website that:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The draft monitoring report, as received from the project participants, has been made publicly available prior to the start of the verification activities. <input checked="" type="checkbox"/> No comments have been received. <p>In this context the following findings have been identified: N/A</p>	OK	OK
<p>A.7. Compliance with standardized format of the Monitoring Report</p>	/F-CDM-FORM/	<p>The verification team has checked all sections of the MR and confirms by means of comparison with the MR template that:</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>(VVS, § 247e) <i>Check (only) if the latest applicable MR template has been used. For compliance assessment with the MR guideline pl. refer to the respective MR sections.</i></p>		<p><input checked="" type="checkbox"/> the standardized MR template has been used In this context the following findings have been identified: N/A</p>		
B. Implementation of project activity				
<p>B.1. Description of implemented registered project activity (F-CDM-FORM, Attachment, B.1) <i>Check if section B.1 of the MR correctly describes / includes the following:</i></p> <ul style="list-style-type: none"> - <i>Implementation status of the PA</i> - <i>Detailed description of installed technology(ies) / technical processes and equipment applied</i> - <i>Diagrams (where appropriate)</i> 	<p>/MR/ /PDD/ /PS/ /IM01/ /O&M/</p>	<p>The verification team has checked section B.1 of the MR and confirms by means of comparison with the information given in the PDD, the project standard and information gathered during the site visit that:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> the description of the implementation status of the PA is in line with the applicable provisions of the project standard <input checked="" type="checkbox"/> an appropriate description of the installed technology(ies), technical process and equipment incl. diagrams, where applicable, has been included <p>In this context the following findings have been identified: (CL B1) Further information regarding installed technology, technical process and equipment is missing in section B.1 according to the attachment of the CDM-MR-FORM. Furthermore information of relevant downtimes identified during site visit is also missing.</p>	<p>CL-B1</p>	<p>OK</p>
<p>B.1.1. Initial project implementation (VVS; §§260 a, 261) <i>Assess whether the project has been implemented and operated as per the registered PDD and are all</i></p>	<p>/IM01/ /PDD/ /IM01/ /O&M/</p>	<p><i>Description:</i> All physical features of the proposed CDM project activity proposed in the registered PDD are in place and that the project participant has implemented and operated the proposed CDM project activity as per the registered PDD. The project activity operates correctly.</p>	<p>OK</p>	<p>OK</p>



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>physical features of the project in place?</i></p> <p><i>Further focus on the potential phase wise implementation and check the reporting on the corresponding status and starting dates accordingly.</i></p> <p><i>Check if the project is still in compliance with the applicability conditions of the methodology.</i></p> <p><i>Also, discuss – if applicable – the necessity of PRC notifications / approvals.</i></p>		<p>Fifteen (15) Gamesa WTG of 850 kW model G52-850 were installed resulting in a total installed capacity 12.75 MW.</p> <p>The project was implemented as described in the PDD^{/PDD/}.</p> <p>All required procedures are available and implemented in an appropriate manner.</p> <p><i>Verifier’s action:</i> Interviews were performed during on site visit. Logbooks to record observations deviating from normal operating conditions were available and checked by the verification team.</p> <p><i>Conclusion:</i> The project has been implemented and operated as per registered PDD.</p>		
<p>B.1.2. Technical equipment changes (VVS; §§260 a, 261)</p> <p><i>Check if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period. Further ensure that consistent notations of key equipment (meters etc.) in PDD, MR and calculation spreadsheet are applied</i></p> <p><i>Consider e.g. interviews with operational personnel, QMS records, maintenance records, instrument specifications.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring</i></p>	<p>/IM01/ /PDD/ /O&M/</p>	<p><i>Description:</i> By means of instrument specifications and during the audit it was evidenced, that no turbine and generator was exchanged nor modified since commissioning.</p> <p>Furthermore no metering equipment was exchange during the monitoring period.</p> <p><i>Verifier’s action:</i> Interviews with the project operators were performed. The operational logbooks were reviewed so as the information displayed from the SCADA.</p> <p><i>Conclusion:</i> No technical equipment affecting the installed capacity were exchanged nor modified during the monitoring period. The installed capacity complies with the description of the registered PDD.</p>	<p>OK</p>	<p>OK</p>



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.						
<p><i>report and the emission reduction calculation.</i></p> <p><i>In case of post registration changes pl. refer to chapter B.2.</i></p>										
<p>B.1.3. Operation of the project activity (VVS; §§260 a, 261)</p> <p><i>Check if relevant operation modes of the project activity have been exchanged or modified during the monitoring period.</i></p> <p><i>Consider e.g. interviews with operational personnel, operation log sheets, data management system records.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring report and the emission reduction calculation.</i></p> <p><i>In case of post registration changes pl. refer to chapter B.2.</i></p>	/IM01/ /PDD/	<p><i>Description:</i> The operation modes were not changed since commissioning and they are in line with the registered PDD.</p> <p><i>Verifier's action:</i> Interviews with the operational personnel and technical information review.</p> <p><i>Conclusion:</i> No changes were identified.</p>	OK	OK						
<p>B.1.4. Incidents (VVS; §§260 a, 261)</p> <p><i>Identify if there have been any significant incidents, deviant operation modes and / or downtimes of the equipment?</i></p> <p><i>Consider e.g. interviews with operational personnel, operational log sheets, analysis of performance data.</i></p>	/IM01/ /O&M/	<p><i>Description:</i> Some events were detected as follows:</p> <table border="1" data-bbox="1050 1161 1803 1375"> <thead> <tr> <th data-bbox="1050 1161 1189 1217">Date</th> <th data-bbox="1189 1161 1803 1217">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="1050 1217 1189 1297">20-10-2012 to 19-12-2012</td> <td data-bbox="1189 1217 1803 1297">Lightning in WTG 14</td> </tr> <tr> <td data-bbox="1050 1297 1189 1375">10-04-2013 to 11/04/2013</td> <td data-bbox="1189 1297 1803 1375">Lightning in WTG 15</td> </tr> </tbody> </table>	Date	Description	20-10-2012 to 19-12-2012	Lightning in WTG 14	10-04-2013 to 11/04/2013	Lightning in WTG 15	OK	OK
Date	Description									
20-10-2012 to 19-12-2012	Lightning in WTG 14									
10-04-2013 to 11/04/2013	Lightning in WTG 15									



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p><i>Verifier's action:</i> Interviews with operational personnel were performed to confirm information. Furthermore monitoring reports regarding shutdowns were visualized from the SCADA. Moreover the operational Logbooks of the project were also checked.</p> <p><i>Conclusion:</i> It was verified during the site visit that some downtimes have occurred during the monitoring period. This was also backed up by the data integrity check and during on site visit at Control Room. The events occurred did not have any impact on the applicability of the methodology.</p>		
<p>B.1.5. Legislation Find out – esp. in the context of methodological requirements - whether relevant legislation with effect on the project activity in the host country has been changed.</p> <p>Assess, in case of changes, whether consequences for the PA with regard to relevant CDM requirements have been accounted for.</p> <p>In case of changes data sources shall be referenced.</p>	/IM01/ /LAW/	<p><i>Description:</i> No legislation with effect on the project activity in the host country has been changed since commissioning.</p> <p><i>Verifier's action:</i> Relevant regulation and legislation applicable to the project activity was considered:</p> <p><u>Legislation:</u></p> <ol style="list-style-type: none"> 1. Electricity General Law given by Decree No. 93-96, 2007. 2. Regulation of the Electricity General Law given by Decree No. 93-96, 2007. 3. Regulation of the administrator of the majority market given by Decree No. 93-96, 2007. <p><u>Legislation:</u></p> <ol style="list-style-type: none"> 4. Technical Norm for use, operation and control of electricity meters – AR-DTCON, 21-12-2001. 	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p><u>Permits & Licenses:</u></p> <p>5. Environmental Resolution No. 344-2009-SETENA, 10/02/2009.</p> <p>6. Environmental Resolution No. 2882-2010-SETENA, 30/11/2010.</p> <p><i>Conclusion:</i> Relevant regulation and legislation was considered. No regulation and legislation with effect on the project activity in the host country has been changed. All permits are valid at the time of on site visit.</p>		
<p>B.1.6. Open issues from validation (VVS; § 248)</p> <p><i>Check (esp. in case of 1st periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?</i></p>	<p>/VAL/</p>	<p><input checked="" type="checkbox"/> There were no open issues addressed in the validation report</p> <p><input type="checkbox"/> All open issues from the validation have been appropriately addressed.</p> <p><input type="checkbox"/> The following issues related to the validation have not yet been appropriately addressed:</p>	<p>OK</p>	<p>OK</p>
<p>B.1.7. Open issues from previous verification (VVS; §§248,319h)</p> <p><i>Check in case of further periodic verifications whether there are any open issues indicated in previous verification reports (FAR) and take into consideration the guidance as specified in VVS.</i></p>	<p>/VER/</p>	<p><input type="checkbox"/> There were no open issues addressed in the previous verification report</p> <p><input type="checkbox"/> All open issues from the previous verification have been appropriately addressed.</p> <p><input type="checkbox"/> The following issues related to the previous verification have not yet been appropriately addressed:</p>	<p>N/A</p>	<p>N/A</p>



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.																														
B.2. Post registration changes																																		
B.2.1. Are post registration changes applicable to the proposed project activity?		<input checked="" type="checkbox"/> No, by means of site visit, document check and interview it could be verified that the project is implemented and operated in line with the registered PDD and the applied methodology. (Please proceed with section C) <input type="checkbox"/> Yes, post registration changes have been identified and are assessed in detail in the subsequent steps. (Please proceed with B.2.2.)	OK	OK																														
B.2.2. Temporary deviations from the registered monitoring plan or applied methodology (TDfrMP; TDfMM) <i>(F-CDM-FORM, Attachment, B.2.1; VVS; §§ 286 - 291)</i> <i>Indicate whether any temporary deviations have been applied during this monitoring period. In cases where approval has been sought from the EB please provide reference. If applied, provide a description of the deviation(s). This should include the reasons for the deviation(s), how it deviates from the monitoring plan and/or applied methodology(ies), the duration for which the deviation(s) is(are) applicable and justification on the conservativeness of the approach. Indicate if the deviation will lead to a reduction in the accuracy and if so, which conservative assumptions and discount</i>	/PS/ /unfccc/	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;"><input checked="" type="checkbox"/></td> <td colspan="2">No TDfrMP or TDfMM have been submitted to the UNFCCC prior to the current monitoring period</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td colspan="2">The following TDfrMP or TDfMM have been approved or are under approval by the UNFCCC</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Title</td> <td></td> </tr> <tr> <td></td> <td>Status</td> <td><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td></td> <td>Appr. date</td> <td></td> </tr> <tr> <td></td> <td>Ref. No.</td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td>Title</td> <td></td> </tr> <tr> <td></td> <td>Status</td> <td><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td></td> <td>Appr. date</td> <td></td> </tr> <tr> <td></td> <td>Ref. No.</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/>	No TDfrMP or TDfMM have been submitted to the UNFCCC prior to the current monitoring period		<input type="checkbox"/>	The following TDfrMP or TDfMM have been approved or are under approval by the UNFCCC		1	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr. date			Ref. No.		2	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved		Appr. date			Ref. No.		OK	OK
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Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.																		
<p><i>factors have been applied.</i> <i>For deviation(s) that require prior approval by the Board, include the date of approval and reference number.</i></p>		<table border="1"> <tr> <td data-bbox="1055 440 1122 576" style="text-align: center;"><input checked="" type="checkbox"/></td> <td data-bbox="1122 440 1816 576">During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA</td> </tr> <tr> <td data-bbox="1055 576 1122 791" style="text-align: center;"><input type="checkbox"/></td> <td data-bbox="1122 576 1816 791"> An approval of the following TDfrMP or TDfMM is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply. <table border="1" data-bbox="1122 683 1816 791"> <tr> <td data-bbox="1122 683 1178 738">1</td> <td data-bbox="1178 683 1335 738">Issue:</td> <td data-bbox="1335 683 1816 738"></td> </tr> <tr> <td data-bbox="1122 738 1178 791">2</td> <td data-bbox="1178 738 1335 791">Issue:</td> <td data-bbox="1335 738 1816 791"></td> </tr> </table> </td> </tr> <tr> <td data-bbox="1055 791 1122 979" style="text-align: center;"><input type="checkbox"/></td> <td data-bbox="1122 791 1816 979"> The following TDfrMP or TDfMM for which appendix 1 of the PS is applicable have been applied: <table border="1" data-bbox="1122 868 1816 979"> <tr> <td data-bbox="1122 868 1178 924">1</td> <td data-bbox="1178 868 1335 924">Issue:</td> <td data-bbox="1335 868 1816 924"></td> </tr> <tr> <td data-bbox="1122 924 1178 979">2</td> <td data-bbox="1178 924 1335 979">Issue:</td> <td data-bbox="1335 924 1816 979"></td> </tr> </table> </td> </tr> </table> <p>In this context the following findings have been identified: N/A</p>	<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA	<input type="checkbox"/>	An approval of the following TDfrMP or TDfMM is to be requested from the EB for the current MP as appendix 1 of the project standard does not apply. <table border="1" data-bbox="1122 683 1816 791"> <tr> <td data-bbox="1122 683 1178 738">1</td> <td data-bbox="1178 683 1335 738">Issue:</td> <td data-bbox="1335 683 1816 738"></td> </tr> <tr> <td data-bbox="1122 738 1178 791">2</td> <td data-bbox="1178 738 1335 791">Issue:</td> <td data-bbox="1335 738 1816 791"></td> </tr> </table>	1	Issue:		2	Issue:		<input type="checkbox"/>	The following TDfrMP or TDfMM for which appendix 1 of the PS is applicable have been applied: <table border="1" data-bbox="1122 868 1816 979"> <tr> <td data-bbox="1122 868 1178 924">1</td> <td data-bbox="1178 868 1335 924">Issue:</td> <td data-bbox="1335 868 1816 924"></td> </tr> <tr> <td data-bbox="1122 924 1178 979">2</td> <td data-bbox="1178 924 1335 979">Issue:</td> <td data-bbox="1335 924 1816 979"></td> </tr> </table>	1	Issue:		2	Issue:			
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<p>B.2.3. Corrections (F-CDM-FORM, Attachment, B.2.2; VVS; §§ 292 - 294)</p> <p><i>Indicate whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report.</i></p>	/PS/ /unfccc/	<table border="1"> <tr> <td data-bbox="1055 1203 1122 1278" style="text-align: center;"><input checked="" type="checkbox"/></td> <td data-bbox="1122 1203 1816 1278">During the verification of the current MP no need for corrections has been identified.</td> </tr> <tr> <td data-bbox="1055 1278 1122 1390" style="text-align: center;"><input type="checkbox"/></td> <td data-bbox="1122 1278 1816 1390"> The following corrections have been applied: <table border="1" data-bbox="1122 1334 1816 1390"> <tr> <td data-bbox="1122 1334 1178 1390">1</td> <td data-bbox="1178 1334 1335 1390">Issue:</td> <td data-bbox="1335 1334 1816 1390"></td> </tr> </table> </td> </tr> </table>	<input checked="" type="checkbox"/>	During the verification of the current MP no need for corrections has been identified.	<input type="checkbox"/>	The following corrections have been applied: <table border="1" data-bbox="1122 1334 1816 1390"> <tr> <td data-bbox="1122 1334 1178 1390">1</td> <td data-bbox="1178 1334 1335 1390">Issue:</td> <td data-bbox="1335 1334 1816 1390"></td> </tr> </table>	1	Issue:		OK	OK											
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<p><i>In cases where the correction(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date of the revised PDD.</i></p> <p><i>Please check and report that the corrected information is an accurate reflection of the actual project information and that the corrected parameters are in accordance with the applied methodology and the monitoring plan.</i></p>		<table border="1" data-bbox="1050 435 1814 494"> <tr> <td data-bbox="1050 435 1122 494"></td> <td data-bbox="1122 435 1182 494">2</td> <td data-bbox="1182 435 1332 494">Issue:</td> <td data-bbox="1332 435 1814 494"></td> </tr> </table> <p>In this context the following findings have been identified: N/A</p>		2	Issue:																															
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<p>B.2.4. Permanent changes from the registered monitoring plan or applied methodology (PCfrMP; PCfMM) (F-CDM-FORM, Attachment, B.2.3; VVS; §§ 295 - 303)</p> <p><i>Indicate whether any permanent changes from the registered monitoring plan or applied methodologies have been approved during this monitoring period or submitted with this monitoring report.</i></p> <p><i>In cases where the change(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, provide the approval date and reference number. Otherwise, provide the version number and the completion date of the revised PDD.</i></p>	<p>/PS/ /unfccc/</p>	<table border="1" data-bbox="1050 845 1814 1380"> <tr> <td data-bbox="1050 845 1122 925"><input checked="" type="checkbox"/></td> <td colspan="3" data-bbox="1122 845 1814 925">No PCfrMP or PCfMM have been submitted to the UNFCCC prior to the current monitoring period</td> </tr> <tr> <td data-bbox="1050 925 1122 997"><input type="checkbox"/></td> <td colspan="3" data-bbox="1122 925 1814 997">The following PCfrMP or PCfMM have been approved or are under approval by the UNFCCC</td> </tr> <tr> <td data-bbox="1050 997 1122 1189" rowspan="4">1</td> <td data-bbox="1122 997 1332 1045">Title</td> <td colspan="2" data-bbox="1332 997 1814 1045"></td> </tr> <tr> <td data-bbox="1122 1045 1332 1093">Status</td> <td data-bbox="1332 1045 1814 1093"><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1122 1093 1332 1141">Appr. date</td> <td colspan="2" data-bbox="1332 1093 1814 1141"></td> </tr> <tr> <td data-bbox="1122 1141 1332 1189">Ref. No.</td> <td colspan="2" data-bbox="1332 1141 1814 1189"></td> </tr> <tr> <td data-bbox="1050 1189 1122 1380" rowspan="4">2</td> <td data-bbox="1122 1189 1332 1236">Title</td> <td colspan="2" data-bbox="1332 1189 1814 1236"></td> </tr> <tr> <td data-bbox="1122 1236 1332 1284">Status</td> <td data-bbox="1332 1236 1814 1284"><input type="checkbox"/> under approval; <input type="checkbox"/> approved</td> </tr> <tr> <td data-bbox="1122 1284 1332 1332">Appr. date</td> <td colspan="2" data-bbox="1332 1284 1814 1332"></td> </tr> <tr> <td data-bbox="1122 1332 1332 1380">Ref. No.</td> <td colspan="2" data-bbox="1332 1332 1814 1380"></td> </tr> </table>	<input checked="" type="checkbox"/>	No PCfrMP or PCfMM have been submitted to the UNFCCC prior to the current monitoring period			<input type="checkbox"/>	The following PCfrMP or PCfMM have been approved or are under approval by the UNFCCC			1	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr. date			Ref. No.			2	Title			Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved	Appr. date			Ref. No.			OK	OK
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		<table border="1"> <tr> <td data-bbox="1055 440 1122 576"><input checked="" type="checkbox"/></td> <td data-bbox="1122 440 1816 576">During the verification of the current MP no need for a PCfrMP or PCfMMhas been identified. The monitoring plan is in accordance with the approved methodology applied by the PA</td> </tr> <tr> <td data-bbox="1055 576 1122 791"><input type="checkbox"/></td> <td data-bbox="1122 576 1816 791">An approval of the following PCfrMP or PCfMMis to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.</td> </tr> <tr> <td data-bbox="1122 683 1178 735">1</td> <td data-bbox="1178 683 1330 735">Issue:</td> <td data-bbox="1330 683 1816 735"></td> </tr> <tr> <td data-bbox="1122 735 1178 791">2</td> <td data-bbox="1178 735 1330 791">Issue:</td> <td data-bbox="1330 735 1816 791"></td> </tr> <tr> <td data-bbox="1055 791 1122 978"><input type="checkbox"/></td> <td data-bbox="1122 791 1816 978">The following PCfrMP or PCfMMfor which appendix 1 of the PS is applicable have been applied:</td> </tr> <tr> <td data-bbox="1122 871 1178 924">1</td> <td data-bbox="1178 871 1330 924">Issue:</td> <td data-bbox="1330 871 1816 924"></td> </tr> <tr> <td data-bbox="1122 924 1178 978">2</td> <td data-bbox="1178 924 1330 978">Issue:</td> <td data-bbox="1330 924 1816 978"></td> </tr> </table> <p data-bbox="1055 1031 1816 1106">In this context the following findings have been identified: N/A</p>	<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP or PCfMMhas been identified. The monitoring plan is in accordance with the approved methodology applied by the PA	<input type="checkbox"/>	An approval of the following PCfrMP or PCfMMis to be requested from the EB for the current MP as appendix 1 of the project standard does not apply.	1	Issue:		2	Issue:		<input type="checkbox"/>	The following PCfrMP or PCfMMfor which appendix 1 of the PS is applicable have been applied:	1	Issue:		2	Issue:			
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2	Issue:																					
<p data-bbox="232 1182 871 1278">B.2.5. Changes to the project design of the registered project activity (CoPD)</p> <p data-bbox="232 1283 871 1342"><i>(F-CDM-FORM, Attachment, B.2.4; VVS; §§ 304 - 317)</i></p> <p data-bbox="232 1358 871 1390"><i>Indicate whether any changes to the project design of</i></p>	<p data-bbox="927 1174 1010 1233">/PS/ /unfccc/</p>	<table border="1"> <tr> <td data-bbox="1055 1214 1122 1294"><input checked="" type="checkbox"/></td> <td data-bbox="1122 1214 1816 1294">No CoPD has been submitted to the UNFCCC prior to the current monitoring period</td> </tr> <tr> <td data-bbox="1055 1294 1122 1374"><input type="checkbox"/></td> <td data-bbox="1122 1294 1816 1374">The following CoPD has been approved or are under approval by the UNFCCC</td> </tr> </table>	<input checked="" type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period	<input type="checkbox"/>	The following CoPD has been approved or are under approval by the UNFCCC	OK	OK														
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Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.		
		In this context the following findings have been identified: N/A				
C. Description of monitoring system						
<p>C.1. Monitoring Plan – PDD Compliance (VVS, §§ 268-271)</p> <p><i>Check if the monitoring plan is in accordance with the monitoring plan contained in the registered PDD (or any accepted revised MP).</i></p> <p><i>Please check esp. if</i></p> <ul style="list-style-type: none"> - <i>all parameters stated in the MP of the registered PDD have been monitored and updated as applicable</i> - <i>the monitoring equipment has been controlled and calibrated as per the MP</i> - <i>the monitoring results are consistently recorded as per the approved frequency</i> - <i>QA/QC procedures have been applied in accordance with the MP</i> 	/MR/ /PDD/ /IM01/	<p>By means of comparison of the MR with the registered PDD (or any revisions thereof) the verification team has checked whether the MP is in compliance with the registered PDD. The outcome is as follows:</p> <table border="1" data-bbox="1050 767 1812 847"> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>The MP is completely in accordance with the last registered/approved version of the PDD / MP.</td> </tr> </table> <p>In this context the following findings have been identified: N/A</p>	<input checked="" type="checkbox"/>	The MP is completely in accordance with the last registered/approved version of the PDD / MP.	OK	OK
<input checked="" type="checkbox"/>	The MP is completely in accordance with the last registered/approved version of the PDD / MP.					
<p>C.2. Monitoring Plan – Meth Compliance (VVS, §§ 264-267)</p> <p><i>Check if the monitoring plan is in accordance with the applied methodology.</i></p>	/MR/ /PDD/ /AMS/	By means of comparison of the MR with the applied CDM methodology and related tools the verification team has checked whether the MP is in compliance with the MP related requirements of the applied methodology. The outcome is as follows:	OK	OK		



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)		Draft Concl.	Final Concl.		
<p><i>In case the methodology references applicable tools it has to be ensured that the MP is also compliant with those tools.</i></p> <p><i>Also please specify if monitoring aspects have been identified that are not specified in the methodology but may enhance the level of accuracy and completeness of the monitoring plan – this esp. applies for SSC PAs.</i></p>		<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the CDM project (last registered/approved version of the PDD)				
		<input checked="" type="checkbox"/>	The MP is completely in accordance with the applied tools which the methodology references. A breakdown of the referenced tools is as follows:				
		1	Title (of the tool)	Tool to calculate the emission factor for an electricity system			
			Version	02.2.1			
			MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)			
		2	Title (of the tool)	-			
			Version	-			
			MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)			
		3	Title (of the tool)	-			
			Version	-			
	MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)					



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		In this context the following findings have been identified: N/A		
<p>C.3. Management System (VVS, § 252(a) (iii))</p> <p><i>Check if the GHG data monitoring system can be assessed as appropriate.</i></p> <p><i>In case reference is made to a (certified) company quality management system, check if all CDM related monitoring procedures have been fully integrated in the project participant's quality management system.</i></p> <p><i>In case of a stand-alone system, check how the GHG management system has been implemented and effectiveness is ensured.</i></p>	/MR/ /PDD/ /IM01/	<p><i>Description:</i> The project activity has implemented a management system including operational procedures. Responsibilities and procedures for data collection, calculation, reporting, and archiving are defined in the MR and in operational procedures.</p> <p><i>Verifier's action:</i> Operational and Monitoring procedures were checked. Interviews were also performed.</p> <p><i>Conclusion:</i> All GHG monitoring system is included and integrated in the management system of the project activity and it could be evidenced and confirmed during site visit that GHG management system is completely implemented.</p>	OK	OK
<p>C.4. Metering diagram (F-CDM-FORM, Attachment, C; PS §242)</p> <p><i>Check first if the MR includes a metering diagram showing all relevant monitoring points.</i></p> <p><i>Check further if this diagram reflects the actual situation and is in line with the registered PDD and with the requirements of the applied methodology.</i></p>	/MR/ /AMS/	<p><i>Description:</i> the MR does not include a metering diagram showing all relevant monitoring points.</p> <p><i>Verifier's action:</i> The MR was checked compared with the information in the PDD.</p> <p><i>Conclusion:</i> A CL was raised.</p> <p>(CL C1) A metering diagram showing all relevant monitoring points is missing in section C.</p>	CL-C1	OK
<p>C.5. Roles and Responsibilities (F-CDM-FORM, Attachment, C; PS §242)</p> <p><i>Check if all roles and positions of each person in the</i></p>	/MR/ /PROC/ /IM01/	<p><i>Description:</i> All responsibilities and roles are clearly defined in Monitoring Report and operational procedures.</p> <p><i>Verifier's action:</i> Operational and Monitoring procedures were</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>GHG data management process are clearly defined and implemented as stated in the monitoring plan. Please consider the complete data trail from raw data generation to submission of the final data.</i></p> <p><i>Identify, if relevant personnel w.r.t. monitoring has been exchanged?</i></p> <p><i>If so, have appropriate training measures been carried out.</i></p> <p><i>In case of changes, assure that the implemented monitoring procedures have not been affected.</i></p>		<p>checked.</p> <p><i>Conclusion:</i> It was verify by the verification team that only duly qualified personnel is involved in the monitoring procedures.</p>		
<p>C.6. Emergency procedures for the monitoring system (F-CDM-FORM, Attachment, C; PS §242)</p> <p><i>Check, as appropriate, whether relevant emergency procedures for the monitoring system have been included in the MR and assess whether these procedures have been implemented, when required</i></p>	/IM01/ /PROC/	<p><i>Description:</i> Emergency procedures are described in the Operational Procedures from the manufacturer.</p> <p><i>Verifier’s action:</i> The Operational Procedures was checked.</p> <p><i>Conclusion:</i> The Operational Procedures include emergency and troubleshooting procedures.</p>	OK	OK
<p>C.7. Data archive and data protection (PS §56 b)</p> <p>Check whether all records of monitoring parameters are archived according to the monitoring plan.</p> <p>Assess further whether appropriate measures have been taken in order to avoid unintended or intended manipulation or loss of the measured data.</p>	/IM01/ /PDD/ /O&M/	<p><i>Description:</i> Operational and measurement equipment on-line with the SCADA system is operating.</p> <p>The SCADA system is used by the project activity to monitor the operation of the project activity. A robust system of alarms and reports is managed using SCADA. There are servers to keep data from the SCADA system.</p> <p>The data is archived in electronic way. Archived data is kept during the crediting period and two years later.</p> <p>The both meters are in protected cabinets located in a locked</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p>room. Both meters transmit information on-line (every 15 minutes). ICE is connected in real time to the meters.</p> <p>Appropriate measures have been taken to avoid unintended or intended manipulation of the measured data.</p> <p><i>Verifier's action:</i> Interview was performed with the personnel of Operations of the project.</p> <p>It was checked during site visit that the meters are in protected cabinets. Interviews were performed to confirm data protection methods.</p> <p><i>Conclusion:</i>All records of monitoring parameters are archived according to the monitoring plan. No discrepancies were identified. Energy data are protected and information could be obtained from different sources to avoid manipulation. Data protection methods are accepted by the verification team.</p>		
D. Data and parameters				
D.1. Data and Parameters fixed ex ante				
<p>a) Compliance with registered PDD (F-CDM-FORM, Attachment; D1, VVS § 246 (d))</p> <p><i>Check whether the value applied is in compliance with the registered PDD.</i></p>	<p>/PDD/ /AMS/ /MR/</p>	<p><i>Description:</i> The values of the data and parameters fixed ex-ante by the PP have been checked against the revised PDD and the applicable methodology. All fixed ex-ante values were found correct.</p> <p><i>Verifier's action:</i> The revised monitoring plan, the registered PDD and the applicable methodologies were checked.</p> <p><i>Conclusion:</i> the value applied for all data and parameter fixed ex ante are in compliance with the registered PDD</p>	<p>OK</p>	<p>OK</p>



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>b) Compliance with the applied methodology (F-CDM-FORM, Attachment; D1)</p> <p>Check whether the value applied is in compliance with the applied methodology or any other tool.</p>	<p>/PDD/ /AMS/ /MR/</p>	<p><i>Description:</i> The values of the data and parameters fixed ex-ante by the PP have been checked against the revised PDD and the applicable methodology. All fixed ex-ante values were found correct.</p> <p><i>Verifier's action:</i> The revised monitoring plan, the registered PDD and the applicable methodologies were checked.</p> <p><i>Conclusion:</i> the value applied for all data and parameter fixed ex-ante are in compliance with the applied methodologies and tools.</p>	OK	OK
D.2. Data and Parameters monitored				
D.2.1. EG_{facility,y}				
<p>a) Measurement / Determination method (VVS, §§ 268, 271)</p> <p>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)).</p> <p>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements.</p> <p>Assess whether the measurement / determination</p>	<p>/IM01/ /PDD/ /AMS/ /MR/ /TECH/</p>	<p>Description: Net quantity of electricity produced by the wind farm and supplied to the Grid</p> <p><i>Description:</i> The delivered electricity is measured and recorded by one bidirectional main meter (ION 7650 S/N: PJ-1103A527-02 with accuracy 0.2) and by one bidirectional back up meter (Nexus 1252 S/N: 99939 with accuracy 0.2) located both at the project substation. The substation represents the connection point to the distribution system. .</p> <p>The export and import values measured by the bi-directional meters register export and import values separately and finally both values are subtracted to calculate the net delivered energy.</p> <p><i>Verifier's action:</i> Technical Data sheet of the meters were checked. Data from the power meters, invoices (Debit Notes) from the net operator and invoices of consumption from security stalls were verified.</p> <p><i>Conclusion:</i> The measurement method is in line with the</p>	CAR D1	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p><i>method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>		<p>registered monitoring plan and the applied methodology. Nevertheless some information is missing in the MR: (CAR D1) Information of the backup meter Nexus is missing in section D.2.</p>		
<p>b) Accuracy and QA/QC Procedure (VVS, §§ 272-278)</p> <p><i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating ERs.</i></p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i></p> <p><i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Annex 2.</i></p>	<p>/IM01/ /PDD/ /AMS/ /MR/</p>	<p><i>Description:</i> Both meters are state of the art. There is no information regarding calibration frequency in the registered PDD. Nevertheless according to the Technical Norm for use, operation and control of electricity meters – AR-DTCON, 21-12-2001, the verification of energy meters shall be performed every 5 years (article 9.1, page 15).</p> <p>According to the registered PDD the net energy generated meter shall be cross checked against sales invoices. The PP provide the measured data of the power meters. The PP also has provided the debit notes which are similar to the sales invoices. It is important to notice that although all electricity is feed into the national grid, the grid operator ICE do not always pay all electricity because according to the cooperatives law the grid operator is not forced to do it. So in some months there are some discrepancies between the invoice and metered electricity.</p> <p><i>Verifier’s action:</i> During site visit, the meters were checked. They are protected. Calibration certificates were given by the PP and assessed by the verification team, nonetheless the backup meter was not calibrated as planned. It important to notice that the data from the backup meter was not used for the ER calculation.</p> <p>The monitoring plan was assessed. The PP had provided the data of energy generation obtained from the measurement point, the debit notes and the invoices of electricity consumption from the security stalls.</p>	<p>CL-D2 FAR D1</p>	<p>FAR D1</p>



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<p><i>Conclusion:</i> The QA/QC procedure regarding energy generated is in line with the applied methodology. The verification team had checked all sources of data. No deviation from the monitoring plan could be identified. Nevertheless further clarifications are required:</p> <p>(CL D2) Information of calibration frequency of the energy meters is missing in section D.2 of the MR. Furthermore initial calibration date of ION meter is incorrect and calibration date of Nexus meter is missing.</p> <p>(FAR D1) During the next verification it should be ensured that the back-up meter is replaced and/or duly calibrated.</p>		
<p>c) Correctness (VVS, §§ 268, 271)</p> <p><i>Determine whether the value given in the monitoring report is correct or determined in a conservative manner.</i></p> <p><i>In case of conservative approaches used in lieu of the monitoring as per registered MP detailed assessment of the conservativeness of the approach used should be given.</i></p> <p><i>In case of mistakes / deviations pl. provide details and descriptions of the CARs raised.</i></p>	/IM01/ /PDD/ /AMS/ /MR/	<p><input type="checkbox"/> Correct <input checked="" type="checkbox"/> Not correct (initial assessment)</p> <p><i>Description:</i> The verification team reviewed the data of energy generation obtained from the measurement point and has crosschecked it against the debit notes as per section B.7.1 and B.7.2 of PDD .</p> <p><i>Verifier's action:</i> The PP had provided the data of energy generation obtained from the measurement point and the debit notes.</p> <p><i>Conclusion:</i> discrepancies were identified as follow:</p> <p>(CAR D3) Data of energy generation used in the MR is incorrect as data of power (kW) instead of data of energy (kWh) was used. Furthermore energy consumption from the project office and other sources from the wind project (e.g. safety check points) were not considered in the calculation of NET quantity of energy produced. Energy consumption bills shall be provided.</p>	CAR D3	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
D.3. Sampling				
<p>a) Implementation of sampling plan (F-CDM-FORM, Attachment; D3)</p> <p><i>Check whether the PP has applied a sampling approach to determine the monitored values (as per section D.2 above).</i></p> <p><i>If this is the case, please provide an assessment whether the PPs have correctly and sufficiently described the implemented sampling plan including</i></p> <ul style="list-style-type: none"> <i>a) Description of the implemented sampling design</i> <i>b) Collected data</i> <i>c) Analysis of collected data</i> <i>d) Demonstration on whether the required confidence/precision has been met.</i> 		<p><input checked="" type="checkbox"/> No sampling approach has been used by the PP to determine the monitored parameters</p> <p>OR.</p> <p><input type="checkbox"/> A sampling approach has been taken for the following monitored parameter:</p>	N/A	N/A
<p>b) Sampling during verification</p> <p><i>In case the VT has applied a sampling approach in the course of the verification the approach shall be described for each parameter.</i></p>		<p><input checked="" type="checkbox"/> No sampling approach has been used by the VT to verify the monitored parameters</p> <p>OR.</p> <p><input type="checkbox"/> A sampling approach has been applied by the VT for the following monitored parameter:</p> <p>As the data was cross checked using the totalized values per year in the calculation sheets and raw data no sampling was required.</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
E. Calculation of Emission reductions				
<p>E.1. Traceability (VVS, §§ 247, 249)</p> <p><i>Assess if the calculation is fully traceable. In case of complex calculations an Excel calculation spreadsheet shall be used. All applied formulae must be visible.</i></p>	/XLS/ /PDD/	<p><i>Description:</i> The PP had used an Excel calculation sheet to provide evidence of the measured parameters and the ER to be generated.</p> <p><i>Verifier's action:</i> The emission reduction calculation spreadsheet^{/XLS/} was provided by the PP.</p> <p><i>Conclusion:</i> The calculation is completely traceable. All applied formulas are visible. No information gaps have been identified. The meter readings were also checked.</p>	OK	OK
<p>E.2. Parameter consistency (VVS, § 249)</p> <p><i>Assess whether all internal and external parameters and data used for calculation are applied consistently in the monitoring report and the calculation spreadsheet?</i></p> <p><i>Consider only the correct data exchange between the monitoring report and the calculation spreadsheet (if any). Further ensure the consistency of notations for all parameters in the PDD, MR and calculation spreadsheet.</i></p>	/XLS/ /PDD/	<p><i>Description:</i> Electricity generation data has been applied consistently between the monitoring report and the Excel calculation spreadsheet.</p> <p><i>Verifier's action:</i> Monitoring report and Excel calculation spreadsheet were checked accordingly.</p> <p><i>Conclusion:</i> No discrepancies were identified.</p>	OK	OK
<p>E.3. Correctness of calculation (VVS, §§ 279-280)</p> <p><i>Check if the applied formulae and methods for calculating baseline emissions, project emissions and</i></p>	/XLS/ /PDD/ /AMS/	<p><i>Description:</i> All applied formulae and methods for calculating baseline emissions are in accordance with the monitoring plan and the approved methodology. Neither project emissions nor leakage are considered for this project. Furthermore the</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Conclusion	Final Conclusion
<p><i>leakage are in accordance with the monitoring plan and / or the approved methodology.</i></p> <p><i>Assess whether the provided calculations are complete and reflect all requirements of the monitoring plan.</i></p> <p><i>Check especially that no standard or old values have been used for calculation where calculations based on up-to-date data is required.</i></p>		<p>calculations are complete and reflect all requirements stated in the Monitoring Plan.</p> <p><i>Verifier's action:</i> Monitoring report and Excel calculation spreadsheet were checked accordingly and crosschecked with the monitoring plan and the approved methodology.</p> <p><i>Conclusion:</i> All applied formulae are in accordance with the monitoring plan and the approved methodology as well. No discrepancies were identified. The calculation is completely traceable. No information/calculation gaps have been identified.</p>		
<p>E.4. Emission reductions table (F-CDM-FORM, Attachment, E.4)</p> <p><i>Check if the MR includes a summary table of the emission reductions calculation specifying separately</i></p> <ul style="list-style-type: none"> - <i>Total baseline emissions</i> - <i>Total project emissions:</i> - <i>Total leakage</i> - <i>Total emission reductions.</i> <p><i>Assess whether the values are correct or need to be revised as a consequence of issues identified above.</i></p>	/MR/	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> The MR includes in section E.4 a summary table of the emission reductions calculation. <input checked="" type="checkbox"/> The summary table specified the total baseline, project and leakage emissions as well as the total emission reductions separately. <input checked="" type="checkbox"/> The values as specified in the ER summary table are correct; no issues have been identified during the verification which require changes in the ER calculation. <input type="checkbox"/> During the verification issues with impact on the ER calculation have been identified. Thus subject to the closure of above listed findings the summary table in E.4 needs to be revised. <p>In this context the following additional findings have been identified:</p> <p>N/A</p>	OK	OK
<p>E.5. Comparison with ex-ante determined emission reductions</p>	/MR/ /PDD/	<p><i>Description:</i> The emission reduction of this verification period is lower than the estimation of the PDD.</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
<p>(F-CDM-FORM, Attachment, E.5; E.6)</p> <p>Check if the MR includes a comparison of actual values of the monitoring period with the estimations in the registered PDD.</p> <p>Check further whether in case of an increase an appropriate explanation is included in the MR.</p> <p>Assess in case of a significant increase whether this is due to technical or organisational changes within or outside the control of the PP and – if this is case – whether the PRC have been considered appropriately.</p>	/EEG/ /IM01/	<p><i>Verifier's action:</i> Energy generation documents^{/EEG/} were checked. Interviews with operation personnel were also performed.</p> <p><i>Conclusion:</i> No increase is identified. The emission reductions of the current monitoring period are lower than the estimation stated in the registered PDD.</p>		
<p>E.6. ER during the 1st commitment period and the period from 1 January 2013 onwards (F-CDM-FORM, Attachment, E.7)</p> <p>Check if the MR includes in chapter E.7 a breakdown of the actual ER into</p> <p>a) ER up to 2012-12-31 and</p> <p>b) ER from 2013-01-01 onwards</p> <p>The ERs for each period should be determined as per the actual generation. In cases where this is not possible or a cap has been applied a proportional (time related) approach should be chosen.</p>	/MR/ /PDD/	<p><input checked="" type="checkbox"/> The MR in section E.7 includes a summary table of the ER breakdown</p> <p>a) ER up to 2012-12-31 and</p> <p>b) ER from 2013-01-01 onwards</p> <p><input checked="" type="checkbox"/> The breakdown of the ERs during the first commitment period and from 2013-01-01 onwards is as follows:</p> <p><input type="checkbox"/> The ER have completely been generated during the first commitment period</p> <p><input type="checkbox"/> The ERs have completely been generated from 2013-01-01 onwards,</p> <p><input checked="" type="checkbox"/> The ERs have partly been generated during the first commitment period and partly from 2013-01-01 onwards.</p>	OK	OK



Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<input checked="" type="checkbox"/> The breakdown of the ERs is correct, considering the applicable guidance. In this context the following additional findings have been identified: N/A		



ANNEX 2: CALIBRATION DATES AND VALIDITY OF INSTALLED MONITORING EQUIPMENT

Monitoring equipment	Related monitoring parameter as per applicable registered MP	Serial number	Type	Accuracy or accuracy class	Previous calibration (last calibration before start of this monitoring period)	Calibration date(s) during this monitoring period	Validity of calibration(s)	Delay in calibration: yes/no	Period of delayed calibration
ION 7650 (Main)	EG _{facility,y}	PJ-1103A527-02	Bidirectional	0.2	29/06/2011	N/A	28/06/2016	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	From: To:
Nexus 1252	EG _{facility,y}	412-99939	Bidirectional	0.2	28/02/2007	N/A	27/02/2012	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	From: 01/07/2012 – To: 30/06/2014

* Installation date is normally used for this kind of equipment to calculate the validity of calibration.



ANNEX 3: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL



Statement of Competence
Approved and authorized according to the provisions
of the TÜV NORD JI/CDM Certification Program

Mr. Raul Gonzalez Mitre

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2015-06-27
VCS / ISO 14064:2	Senior Assessor	2015-06-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies 1.2.1 Wind 1.2.2 Solar 1.2.3 Geothermal 1.2.4 Biomass
13.1	Waste handling and disposal

022 - Rev. 5, Date: 2014-07-11

ISO_14064_2_2014_07_11_14_088



Statement of Competence
Approved and authorized according to the provisions
of the TÜV NORD JI/CDM Certification Program

Mr. Oliver Quireza Campos

SCHEME	STATUS	VALID UNTIL
CDM	Auditor	07-07-2017
VCS / ISO 14064:2	Auditor	07-07-2017

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies
13.1	Waste handling and disposal
13.2	Animal Waste Management

337 - Rev. 2, Date: 2014-07-08

ISO_14064_2_2014_07_08_104



Statement of Competence
Approved and authorized according to the provisions
of the TÜV NORD JI/CDM Certification Program

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-27
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal energy generation	1.1.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Biomass 1.2.5 Other
2.2	Heat distribution	
3.1	Energy demand	3.1.1 Waste management 3.1.2 Waste water management
13.1	Waste handling and disposal	13.1.1 Waste management 13.1.2 Waste water management
13.2	Animal waste management	
13.3	Animal waste management	

163 - Rev. 3, Date: 2014-07-28

ISO_14064_2_2014_07_28_104



Statement of Competence
Approved and authorized according to the provisions
of the TÜV NORD JI/CDM Certification Program

Mr. Martin Saalmann

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2015-05-15
JR	Senior Assessor Technical Reviewer	2015-05-15
VCS / ISO 14064:2	Senior Assessor Technical Reviewer	2015-05-15

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable energies	1.2.4 Biomass
13.1	Waste management and disposal	13.1.1 Waste management 13.1.2 Waste water management

022 - Rev. 4, Date: 2012-05-16

ISO_14064_2_2012_05_16_104