




**Validation report form for post-registration changes for
CDM project activities
(Version 02.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Energia dos Ventos I, II, III, IV and X CDM Project (JUN1184), Brazil UNFCCC Ref. Number: 10304
Process track	<input checked="" type="checkbox"/> Prior approval <input type="checkbox"/> Issuance <input type="checkbox"/> Renewal of crediting period
Version number of the validation report on PRCs	1.0
Completion date of the validation report on PRCs	12/06/2019
Type(s) of PRCs	<input type="checkbox"/> Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines <input type="checkbox"/> Corrections <input checked="" type="checkbox"/> Changes to the start date of the crediting period <input type="checkbox"/> Inclusion of a monitoring plan <input checked="" type="checkbox"/> Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools <input type="checkbox"/> Changes to the project design <input type="checkbox"/> Changes specific to afforestation and reforestation project activities
Version number of PDD to which this report applies	2.4
Project participants	Energia dos Ventos I S.A. Energia dos Ventos II S.A. Energia dos Ventos III S.A. Energia dos Ventos IV S.A. Energia dos Ventos X S.A.
Host Party	Brazil
Applied methodologies and standardized baselines	ACM0002: Grid-connected electricity generation from renewable sources – version 16.0
Mandatory sectoral scopes linked to the applied methodology	1

Conditional sectoral scopes linked to the applied methodologies	-
Name and UNFCCC reference number of the DOE	Earthood Services Private Limited UNFCCC Ref. Number: E-0066
Name, position and signature of the approver of the validation report on PRCs	 Dr. Kaviraj Singh Managing Director

SECTION A. Executive summary

Brief summary of the project activity

The project activity consists in the construction of five new wind power plants in the municipality of Aracati, State of Ceará, Brazil. The plants are Goiabeira, Ubatuba, Santa Catarina, Pitombeira and Ventos de Horizonte with installed capacity of 23.1 MW, 12.6 MW, 18.9 MW, 27.3 MW and 16.8 MW respectively.

Technical description of wind turbines for all plants:

- Model: WEG AGW110
- Manufacturer: WEG
- Power Capacity (each): 2.1 MW
- Rotor Blade Diameter: 110 m

Scope of validation

Energia dos Ventos IV S.A. has contracted ESPL to conduct the validation of the PRC of the project activity “Energia dos Ventos I, II, III, IV and X CDM Project (JUN1184), Brazil”.

The scope of the validation is to establish that the PRC is in accordance with PS for project activities 02.0.

Validation process

The validation process involved the following:

- contract with Energia dos Ventos IV S.A. for the scope of validation of the PRC of the project activity;
- desk review;
- physical on-site inspection;
- issuance of validation findings;
- reporting, calculation checks, QA/QC and resolution of findings;
- issuance of draft validation report;
- independent technical review of the project documentation;
- issuance of the final validation report;
- submission of the request for renewal, as appropriate.

Conclusion

ESPL has performed the validation of the PRC of the CDM PA “Energia dos Ventos I, II, III, IV and X CDM Project (JUN1184), Brazil” (UNFCCC Ref. Number: 10304).

The validation team has confirmed that the PRC is in accordance with PS for project activities 02.0, relevant CDM rules and requirements and conditions of the applied methodology ACM0002 – version 16.0.

The PA is expected to generate an annual average of 200,274 tCO₂e in the first crediting period.

Therefore, the request for registration of the PRC is being submitted in accordance with the CDM procedures.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Validation findings

1.	Team Leader	OR	Cruz	Sergio	Verifit	Y	Y	Y	Y
2.	Local Expert	OR	Cruz	Sergio	Verifit	Y	Y	Y	Y
3.	Methodological Expert	OR	Cruz	Sergio	Verifit	Y	Y	Y	Y
4.	Technical Expert	OR	Cruz	Sergio	Verifit	Y	Y	Y	Y

B.2. Technical reviewer and approver of the validation report on PRCs

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Gautam	Ashok Kumar	Central Office
2.	Technical Expert	IR	Gautam	Ashok Kumar	Central Office
3.	Approver	IR	Singh	Kaviraj	Central Office

SECTION C. Means of validation

C.1. Desk/document review

A desk review was conducted by the validation team that included:

- a review of the data and information presented to assess its completeness;
- a review of the registered project activity, the applied methodology including applicable tool(s) and, where applicable, the applied standardized baseline;
- a review of supporting documents.

A complete list of documents/evidences reviewed is included as Appendix 3 of the Validation Report to which this Validation report form for post-registration changes is attached to.

C.2. On-site inspection

Duration of on-site inspection: 07 and 08/05/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	Opening Meeting: introduction, scope and objective of work, roles and responsibilities of audit team, resources required, and timetable of the onsite audit including venue for closing meeting and any concerns from PP	Aracati	07/05/2019	Sergio Cruz
2.	Physical inspection of the site and interviews with company representatives about the changes	Aracati	08/05/2019	Sergio Cruz
3.	Assessment of new documentation	Aracati	08/05/2019	Sergio Cruz
4.	Inspection of Russas II substation (delivery point)	Russas	08/05/2019	Sergio Cruz
7.	Closing Meeting: submission of the audit findings to the client and agreement on the issues raised and agreement on timelines.	Russas	08/05/2019	Sergio Cruz

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Damas	Leonardo	Energia dos Ventos	07/05/2019 08/05/2019	Project activity monitoring and management Historical issues	Sergio Cruz
2.	Moraes	Arthur	Carbotrader	07/05/2019 08/05/2019	CDM aspects	Sergio Cruz

3.	Barbosa	José Ivanilson	Energia dos Ventos	08/05/2019	Delivery point – Substation Russas II	Sergio Cruz
----	---------	----------------	--------------------	------------	---------------------------------------	-------------

C.4. Sampling approach

Not applicable as no sampling has been used during the validation.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	01	-	-
Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines	-	-	-
Corrections	-	-	-
Changes to the start date of the crediting period	01	-	-
Inclusion of a monitoring plan	-	-	-
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools	-	-	-
Changes to the project design	-	-	-
Changes specific to afforestation and reforestation project activities	-	-	-
Others (please specify)	-	-	-
Total	02	0	0

SECTION D. Validation findings**D.1. Compliance with PDD form**

Means of validation	The project participants have used the latest version of the PDD form for the revised PDD. By checking the updated PDD, the DOE can confirm that the information transferred to the later version of the form is materially the same as that in the registered PDD.
Findings	CL 01
Conclusion	A latest version of the PDD template (CDM-PDD-FORM – version 10.1) available at the UNFCCC website has been used. It has been filled out in accordance with the instructions for filling it out.

D.2. Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines

Means of validation	Not applicable
Findings	-
Conclusion	Not applicable

D.3. Corrections

Means of validation	Not applicable
Findings	-
Conclusion	Not applicable

D.4. Changes to the start date of the crediting period

Means of validation	The start date of the crediting period is being requested to be changed from 29/07/2016 to 26/07/2018, as the initial date could not be accomplished as the original delivery point (ICG Aracati) stated at the registered PDD has not been constructed and the electricity had to be transmitted directly to Substation Russas II, which had to be renovated in order to receive the electricity from all five plants (Goiabeira, Ubatuba, Santa Catarina, Pitombeira and Ventos de Horizonte).
Findings	CL 02

Conclusion	<p>The change is in accordance with paragraph 235 of Project Standard for project activities – version 2.0, as the proposed change to the start date of the crediting period of a registered CDM project activity is between one and two years.</p> <p>It is important to note that no changes have occurred to the project activity that would result in a less conservative baseline and substantive progress has been made by the project participants to start the project activity, as its obligation has been concluded at the due date and the delay has occurred because the original delivery point has not been constructed, which was beyond PPs' control.</p> <p>In addition, it is necessary to point out that the chosen date for the start of the crediting period (26/07/2018) is the first date after the two years period set by ANEEL's Dispatch # 1987, which officially authorized the transference of the delivery point from ICG Aracati to Substation Russas II.</p> <p>As the starting date is going to be changed, the ERs estimates have been recalculated with updated $EF_{grid,CM}$ from 2018.</p>
-------------------	---

D.5. Inclusion of a monitoring plan

Means of validation	Not applicable
Findings	-
Conclusion	Not applicable

D.6. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools

Means of validation	<p>Originally, all five plants (Goiabeira, Ubatuba, Santa Catarina, Pitombeira and Ventos de Horizonte) would deliver the generated electricity at Pitombeira Substation, where the tension was going to be elevated from 34.5 kV to 138 kV, and it would be delivered to the Brazilian National Interconnected Grid at ICG Aracati III Substation at a distance of 30 km.</p> <p>Nevertheless, due to the fact that the original delivery point (ICG Aracati) stated at the registered PDD has not been constructed, the electricity generated in all five plants had deliver the generated electricity at Pitombeira Substation, where the tension was going to be elevated from 34.5 kV to 230 kV, and it would be delivered to the Brazilian National Interconnected Grid at Russas II Substation at a distance of 65 km.</p>
Findings	-
Conclusion	<p>The requested change is in accordance with paragraph 238 of Project Standard for project activities – version 2.0, as the project participants are unable to implement the registered monitoring plan due to an obligation beyond PPs' control, a permanent change to the registered monitoring plan is being requested, which does not have material impact on the applicability of the applied methodology or the other applied methodological regulatory documents, or the accuracy and completeness of the monitoring, as the monitoring continues being of the net amount of electricity delivered to the grid, but now at Russas II Substation.</p>

D.7. Changes to the project design

Means of validation	Not applicable
Findings	-
Conclusion	Not applicable

D.8. Changes specific to afforestation and reforestation project activities

Means of validation	Not applicable
Findings	-
Conclusion	Not applicable

SECTION E. Internal quality control

The draft validation report that is prepared by validation team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable CDM rules/requirements.

The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope to which the project activity is related. All members of technical review team are independent of the validation team.

During the technical review process, additional findings may be identified or the closed out findings may be opened, which needs to be satisfactorily resolved before the request for the renewal of the crediting period is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same, in such case, providing the comments/findings/issues that needs to be resolved by the validation team. The decision taken by the technical reviewer is final and is authorized on behalf of ESPL.

SECTION F. Validation opinion

The change to the start date of the crediting period and the permanent change to the registered monitoring plan are in accordance with paragraphs 235 and 238 of PS for project activities – version 2.0, respectively, and reflect the new scenario for the project activity, since the original delivery point has not been constructed, as set in the registered PDD, due to causes beyond PPs' control, which led to a necessity to also change the start of the crediting period.

It is important to note that:

- regarding the change to the start date of the crediting period:
 - a. no changes have occurred to the project activity that would result in a less conservative baseline; and
 - b. all progress from the PP has been made to start the project activity;
- regarding the permanent change to the registered monitoring plan:
 - a. the change has no material impact on the applicability of the applied methodology or the other applied methodological regulatory documents, or the accuracy and completeness of the monitoring.

The new version of PDD accurately and clearly reflects the proposed changes.

Appendix 1. Abbreviations

Abbreviations	Full texts
ACM	Approved Consolidated Methodology
ALUPAR	Owner of Energia dos Ventos
ANEEL	Brazilian Electricity Regulatory Agency
BE	Baseline Emission
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CM	Combined Margin
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CP	Crediting Period
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GSC/GSP	Global Stakeholder Consultation Process
ICG	Transmission Installation of Shared Connection for Generation Centrals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
kW	kilo Watt
kWh	kilo Watt hour
LoA	Letter of Approval/Authorization
MoC	Modalities of Communication
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
OM	Operating Margin
PA	Project Activity
PCP	Project Cycle Procedure
PDD	Project Design Document
PE	Project Emission
PLF	Plant Load Factor
PP	Project Participant
PS	Project Standard
SEMACE	Environmental Department of the State of Ceará
SIN	National Interconnected System
tCO ₂ e	Tonnes of Carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VT	Validation Team
VVS	Validation and Verification Standard
WPP	Wind power plant

Appendix 2. Competence of team members and technical reviewers

Competence Statement			
Name	Sergio Bonanno Cruz		
Country	Brazil		
Education	Post Graduate Diploma in Environment		
Experience	25 Years		
Field	Environmental Law, CDM, Energy, Climate Change		
Approved Roles			
Team Leader	Yes		
Validator	Yes		
Verifier	Yes		
Methodology Expert	ACM0001, ACM0002, AM0026, ACM0006, AMS-I.D		
Local expert	Brazil, Chile		
Financial Expert	Yes		
Technical Reviewer	Yes		
TA Expert	1.2, 13.1		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Kumar Gautam	Date	01/03/2018

Competence Statement			
Name	Ashok Gautam		
Country	India		
Education	M. Sc. (Environmental Sciences) M. Tech. (Energy & Environmental Management)		
Experience	16 Years +		
Field	Energy, Climate Change & Environment		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-I.A., AMS-I.C., AMS-I.E, AMS-II.D., AMS-II.G., AMS-III.E., AMS-III.H., AMS-III.Q, AMS-III.Z., AMS-III.AV., AM0029, AM0025, AM0056, ACM0001, ACM0002, ACM0004, ACM0012, ACM0006, AM0018, ACM0009, AM0034, AMS.I.B		
Local expert	YES (India)		
Financial Expert	YES		
Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, TA 3.1, TA 13.1)		
Reviewed by	Shreya Garg	Date	25/01/2019
Approved by	Anshika Gupta	Date	25/01/2019

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	UNFCCC	Standard: CDM PS for PA	version 02.0	Other
2.	UNFCCC	Standard: CDM PCP for PA	version 02.0	Other
3.	UNFCCC	Standard: CDM VVS for PA	version 02.0	Other
4.	UNFCCC	Form: CDM-PDD-FORM	version 10.1	Other
5.	UNFCCC	Project design document (registered)	version 2.1 – 09/12/2015	PP
6.	PP	Project design document (revised)	version 2.2 – 04/04/2019 version 2.3 – 20/05/2019	PP
7.	PP	Project design document (final)	version 2.4 – 12/06/2019	PP
8.	PP	ER Spreadsheet	version 1 version 2_4	PP
9.	UNFCCC	<u>Methodology</u> : ACM0002 – Grid-connected electricity generation from renewable sources	version 16.0	Other
10.	UNFCCC	<u>Methodological tool</u> : - TOOL07 – Tool to calculate the emission factor for an electricity system	version 05.0	Other
11.	SEMACE	<u>Licenses</u> : - WPP Goiabeira – # 65/2016	23/03/2016	PP
		- WPP Ubatuba – # 66/2016	28/03/2016	
		- WPP Santa Catarina – # 36/2016	25/02/2016	
		- WPP Pitombeira – # 249/2015	14/12/2015	
		- WPP Ventos de Horizonte – # 18/2016	22/01/2016	
12.	ANEEL	<u>Operation Authorizations</u> : - WPP Goiabeira – Dispatch # 2322	10/10/2018	PP
		- WPP Ubatuba – Dispatch # 2320	10/10/2018	
		- WPP Santa Catarina – Dispatch # 2323	10/10/2018	
		- WPP Pitombeira – Dispatch # 2321	10/10/2018	
		- WPP Ventos de Horizonte – Dispatch # 2319	10/10/2018	
13.	ANEEL	<u>Transference of the delivery point</u> : - Technical Note # 162/2016 – historical justification for the change from ICG Aracati to Substation Russas II	16/04/2016	PP
		- Dispatch # 1987	26/07/2016	
14.	-	DNA of Brazil	http://www.mctic.gov.br/portal	Other
15.	-	National Electric Energy Agency	http://www.aneel.gov.br/	Other
16.	-	SEMACE	https://www.semace.ce.gov.br/	Other
17.	-	IPCC publications	www.ipcc-nggip.iges.or.jp	Other
18.	-	UNFCCC	http://cdm.unfccc.int	Other

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CLs from this validation

CL ID	01	Section no.	D.1	Date: 08/05/2019
Description of CL				
<i>Section B.6.4 has not been revised in accordance with the proposed change of the start of the crediting period.</i>				
Project participant response				Date: 20/05/2019
The Section B.6.4 was revised accordingly. In line with proposed start of the crediting period on 26/07/2018.				
Documentation provided by project participant				
PDD – v. 2.3; CERs Excel spreadsheet				
DOE assessment				Date: 29/05/2019
Section B.6.4 has been revised. Nevertheless, the EF_{CM} has not been revised to actual values. Thus, CL remains open.				
Project participant response #2				Date: 12/06/2019
The EF_{CM} was adjusted accordingly to latest values available (2018).				
Documentation provided by project participant				
PDD – v. 2.4; CERs Excel spreadsheet 2_4				
DOE assessment #2				Date: 12/06/2019
The values of 2018 EF_{OM} and EF_{BM} published by the Brazilian DNA have been used for the calculation of EF_{CM} . Then, the new value has been used for the calculation of ER estimates.				

CL ID	02	Section no.	D.4	Date: 08/05/2019
Description of CL				
<i>It is not clear how the date for the revised start of the crediting period has been chosen.</i> <i>In addition, it was not demonstrated that no changes have occurred to the project activity that would result in a less conservative baseline and that substantive progress has been made by the project participants to start the project activity, as required by paragraph 236 of Project Standard for project activities – version 2.0.</i>				
Project participant response				Date: 20/05/2019
The new start date of crediting period was defined based on the delay occurred on windfarms operation start. The delay is due to new grid connection point defined by the Brazilian authorities just after the windmills become operational available (see Dispatch ANEEL #1,987 from 26/07/2016). As per this document was defined a new substation connection point (from ICG Aracati III to Russas II substation), also the new transmission line and interconnection devices construction responsibility were transferred from third party prior contracted by the Brazilian government to the Project Participant. Also, this document defines a deadline of 24 months for new transmission construction conclusion. The PP all the time tried to define with Brazilian authorities their situation about the properly grid connection point for their PA. This is evidenced in the event timeline enclosed in the document “ANEEL Technical Note #126/2016”. The Brazilian authorities authorizes the new grid connection point only on 26/07/2016. The changes to the project activity didn't affect the conservativeness of the baseline. The PA electricity generation amount didn't change and also the grid emission factor used is only for ex-ante estimation. The PDD monitoring section forecast that the PA electricity generation and also grid emission factor shall be monitored ex-post.				
Documentation provided by project participant				
ANEEL's Dispatch # 1987				
DOE assessment				Date: 29/05/2019

It was clarified and evidences have been presented that the chosen date for the start of the crediting period (26/07/2018) is the first date after the two years period set by ANEEL's Dispatch # 1987, which officially authorized the transference of the delivery point from ICG Aracati to Substation Russas II.

In addition, it is important to note that no changes have occurred to the project activity that would result in a less conservative baseline and substantive progress has been made by the project participants to start the project activity, as its obligation has been concluded at the accomplished date and the delay has occurred because the original delivery point has not been constructed, which was out of PPs' control.

Table 2. CARs from this validation

Not applicable

Table 3. FARs from this validation

Not applicable

- - - - -

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	31 October 2017	Revision to align with the requirements in the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory		
Document Type: Form		
Business Function: Registration		
Keywords: post-registration change, project activities, validation report		