Monitoring report form for CDM project activity
(Version 08.0)

MONITORING REPORT			
Title of the project activity	Corredor dos Senandes CDM Project		
UNFCCC reference number of the project activity	9375		
Version number of the PDD applicable to this monitoring report	04.1		
Version number of this monitoring report	1		
Completion date of this monitoring report	12/08/2021		
Monitoring period number	Second Monitoring Period		
Duration of this monitoring period	01/01/2021– 30/06/2021		
Monitoring report number for this monitoring period	Not applicable		
Project participants	OEA Eólica Corredor do Senandes 2 Ltda OEA Eólica Corredor do Senandes III Ltda. OEA Eólica Corredor do Senandes IV Ltda. OEA Eólica Vento Aragano I Ltda. Enerbio Consultoria Ltda – ME.		
Host Party	Brazil		
Applied methodologies and standardized baselines	Approved consolidated baseline and monitoring methodology ACM0002, version 13.0.0 - "Consolidated baseline methodology for grid-connected electricity generation from renewable sources		
Sectoral scopes	1		
Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period	Amount achieved before 1 January 2013	Amount achieved from 1 January 2013 until 31 December 2020	Amount achieved from 1 January 2021
	0	0	78,789
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	55,014		

SECTION A. Description of project activity

A.1. General description of project activity

Corredor dos Senandes CDM Project (hereinafter referred as Corredor dos Senandes Project) consists of the implantation and operation of the Corredor dos Senandes wind power complex. The Project has 108 MW of total installed capacity. This complex is formed by wind power plants (WPPs) Corredor dos Senandes II, Corredor dos Senandes III, Corredor dos Senandes IV and Vento Aragano I, located in the same site. This division in four wind power plants just happened for administrative/legal purposes. The complex was divided in four companies that are property of the same group. The project will supply clean electricity to the Brazilian National Interconnected System (SIN). It takes place in Rio Grande city, Rio Grande do Sul State, south region of Brazil.

The project activity reduces greenhouse gases (GHG) emissions, avoiding electricity generation through fossil fuels sources. Clean and renewable electricity supply will bring an important contribution to environmental sustainability, reducing the carbon dioxide emissions that would occur in the absence of this project.

The baseline scenario is the same scenario existing before the start of implementation of the project activity, which is: “the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin calculations according to “Tool to calculate the emission factor for an electric system””.

A.2. Location of project activity

The project is located in Rio Grande city, Rio Grande do Sul state in the south region of Brazil. The geographic coordinates[1] of wind turbine of the project are presented below:

Table 1: Coordinates of each turbine of the project activity

Corredor dos Senandes II WPP			**Corredor dos Senandes IV WPP**		
Turbine	East	North	Turbine	East	North
1	-32,382224	-52,328343	1	-32,3688140	-52,343129
2	-32,380266	-52,3356390	2	-32,3656160	-52,348411
3	-32,387846	-52,329383	3	-32,3769870	-52,345349
4	-32,393851	-52,332118	4	-32,3725820	-52,353596
5	-32,389854	-52,338236	5	-32,3873120	-52,343971
6	-32,39935	-52,335006	6	-32,385283	-52,350659
7	-32,397889	-52,340896	7	-32,378268	-52,359643
8	-32,395986	-52,346800	8	-32,394005	-52,353245
Corredor dos Senandes III WPP			9	-32,391587	-52,359120
Turbine	East	North	10	-32,388242	-52,364013
1	-32,407844	-52,339407	11	-32,384131	-52,366364
2	-32,407043	-52,345295	**Vento Aragano I WPP**		
3	-32,405760	-52,351411	1	-32,415764	-52,37051
4	-32,403123	-52,357528	2	-32,421610	-52,372108
5	-32,416468	-52,347902	3	-32,412516	-52,380552
6	-32,423790	-52,350648	4	-32,427019	-52,375689
7	-32,420473	-52,355469	5	-32,424547	-52,382341
8	-32,415797	-52,359169	6	-32,421024	-52,387679
9	-32,411131	-52,363570	7	-32,445643	-52,389261
10	-32,406950	-52,369877	8	-32,443738	-52,389261
			9	-32,439650	-52,391634
			10	-32,452249	-52,397753
			11	-32,454185	-52,392473

[1] Coordinates Notation: DATUM SIRGAS 2000; UTM Zone 23.

A.3. Parties and project participants

Table 2: Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Brazil	Private entity: OEA Eólica Corredor do Senandes 2 Ltda. Private entity: OEA Eólica Corredor do Senandes III Ltda.. Private entity: OEA Eólica Corredor do Senandes IV Ltda. Private entity: OEA Eólica Vento Aragano I Ltda. Private Entity: Enerbio Consultoria Ltda - ME	No

A.4. References to applied methodologies and standardized baselines

- Approved consolidated baseline and monitoring methodology ACM0002, version 13.0.0 - "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"[2].
- TOOL01: Tool for the Demonstration and Assessment of Additionality, Version 06.0.0[3].
- TOOL07: Tool to calculate the emission factor for an electricity system, version 07.0[4]

A.5. Crediting period type and duration

The project activity uses renewable crediting period and the duration is from 01/07/2014 to 30/06/2021.

SECTION B. Implementation of project activity

B.1. Description of implemented project activity

In 31/12/2012, Corredor dos Senandes CDM Project was registered by CDM EB[5].

[2] https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG

[3] https://cdm.unfccc.int/Reference/tools/index.html

[4] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

[5] https://cdm.unfccc.int/Projects/DB/LRQA%20Ltd1356708850.22/view

Corredor dos Senandes II, III, IV and Vento Aragano I Wind Power Plants have individual installed capacity of 21.6 MW, 27MW, 29.7 MW and 29.7MW, respectively, totalizing 108 MW of installed capacity. As PDD registered, the plant load factor of the complex is 47.4%.

The following table presents the main technical parameters of the project activity.

Table 3: Technical characteristics of the project activity.

Description	Corredor dos Senandes CDM Project Activity
1. Electricity data[6]	
Installed capacity (MW)	108 MW
Plant Load Factor (P50)	47.4%
Annual Electricity Generation (P50)	448,365 MWh/year
2. Wind Turbines[7]	
Model	ECO 122 2.7 Class III-A
Supplier	Alstom
Nominal capacity (Unit)	2.7 MW
Units	40
Frequency	60 Hz
Rotor diameter	122 m
Hub height	89 m
Range of Control Speed	6,97 / 12,25 rpm
Lifetime	20 years
Energy Control System	Pitch control independently in each blade. Variable speed.

The main milestones of project implementation are presented at the following table:

Table 4: Main milestones of the project activity implementation

Date (dd/mm/yyyy)	Milestone	Evidence/Reference
18/08/2011	WPPs Electricity selling in the 2011 Auction of Reserve Energy	Results of the 2011 Auction of Reserve Energy.
27/02/2012	Signing of Turn-Key contract with supplier.	Turn-Key Contract established between Project Owners and Supplier for full WPPs implementation.
23/10/2012	Installation License issuance	Installation License 13,083 issued by Environmental Institute.
31/12/2012	CDM Registration date	Registration on CDM EB as CDM Project Activity.
18/12/2014	First Operation License Issuance	Operation License 7288/2014-DL
04/02/2015	Operation starting date of Corredor dos Senandes II	Operational starting date as authorized by ANEEL Dispatch 240, issued on 03/09/2015.
23/01/2015	Operation starting date of Corredor dos Senandes III	Operational starting date as authorized by ANEEL Dispatch 120 issued on 22/01/2015.

[6] Inova Energy Report, page 02. Issued on March 13, 2012.

[7] General technical description of the ECO 122 wind turbine for Corredor dos Senandes project. page 05. Issued on February 15, 2012.

Date (dd/mm/yyyy)	Milestone	Evidence/Reference
11/04/2015	Operation starting date of Corredor dos Senandes IV	Operational starting date as authorized by ANEEL Dispatch 1,011; issued on 10/04/2015.
30/04/2015	Operation starting date of Vento Aragano I	Operational starting date as authorized by ANEEL Dispatch 1,269; issued on 29/04/2015.
19/12/2018	Operation License Issuance	Operation License 8144/2018-DL

B.2. Post-registration changes

B.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

There are no deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents.

B.2.2. Corrections

There are no corrections to project information or parameters fixed at the registration of the project activity.

B.2.3. Changes to the start date of the crediting period

There are no changes to the start date of the crediting period fixed at the registration of the project activity.

B.2.4. Inclusion of monitoring plan

There are no post-registration changes to include a monitoring plan into the PDD.

B.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

There are no permanent changes to the registered monitoring plan, or permanent deviation of monitoring from applied methodologies, applies standardized baselines, or other methodological regulatory documents.

B.2.6. Changes to project design

There are no changes to the project design of the project activity.

B.2.7. Changes specific to afforestation or reforestation project activity

Not applicable. This CDM project is not an afforestation or reforestation project activity.

SECTION C. Description of monitoring system

The Monitoring Plan is elaborated according to the Monitoring Methodology presented in the Consolidated baseline methodology for grid-connected electricity generation from renewable sources ACM0002, version 13.0.0.

The responsibilities for information monitoring are listed below.

Responsibilities

- Corredor dos Senandes II, III, IV and Vento Aragano I WPPs Team: responsible for activities related to the operation of the wind power plants and for collecting the information directly in the meters.
- Outsourced Agent: part of the assignment of measurement and operation can be outsourced by hiring an Measuremen Agent. In this case, of Corredor dos Senandes II, III, IV and Vento Aragano I WPPs team will be responsible for monitoring the work done by the outsourced company.
- Enerbio Consultoria: responsible for calculating the greenhouse gases emission reductions.

The project has a principal meter and a backup meter (both bidirectional), located in the substation, to measure net electricity and the electricity delivered from the grid to the project.

Process Description

I – Procedure for Collection of Generation Data

Measurements of the electricity delivered to the grid will be electronically monitored through on-site metering equipment. The Measurement Area will continuously monitor the electricity supplied to the grid ($EG_{facility}$) by following up and automatically storing data from the (main and backup) metering devices. Data stored on the meters is also collected by the System of Energy Data Collection (Sistema de Coleta de Dados de Energia – SCDE) of CCEE, remotely and automatically through direct access to the meters of the project participant. These collected data are processed in SCDE for electricity accounting by CCEE and are available to all energy market participants.

All meters related to the project are ION 8600C model,

II – Data Storage

The information of generation is electronically stored by the Operation and Maintenance team. In order to assure that data is appropriatelly and secured stored, the Information Technology Area conducts an insurance *backup* for all company`s data through a Data Server *backup.* Following these procedures, Project participants will assure that all relevant data is kept at least 2 years after the end of the crediting period or the last issuance of CERs, whichever occurs later.

III – Confronting of the internal generation data with the third part reports:

Information from meters is confronted with CCEE reports. CCEE is the entity responsible for electricity contracts settlements in Brazil.

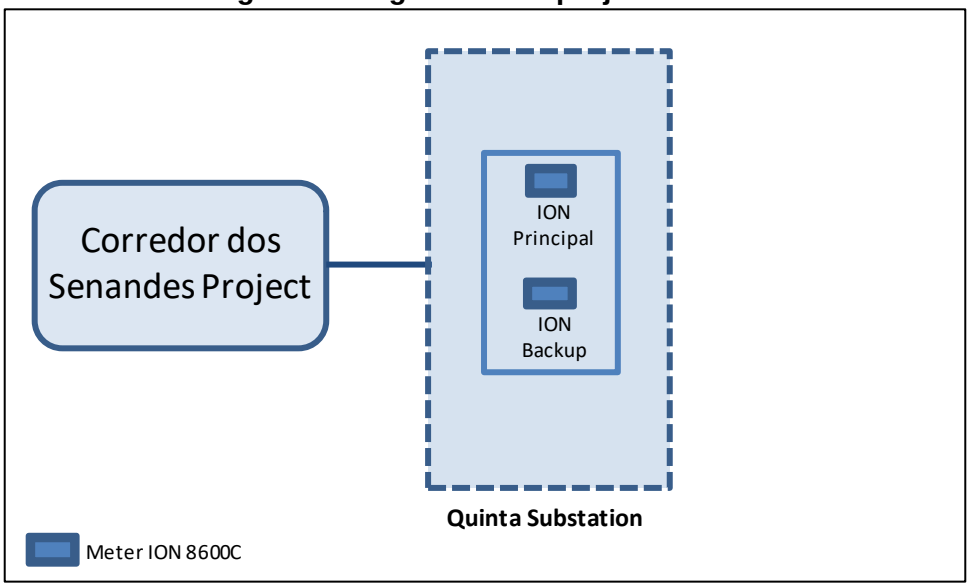
IV – Procedure for Controlling of Generation Data

CCEE reads the electricity generated by the plant remotely via telemetering. If any problem with data transmission occurs, electricity generation data can be sent when the system is re-established. If the system does not work, a technical professional will be sent to the site and data can be obtained directly from the meters.

Meters location:

Corredor dos Senandes Project has a principal meter and a backup meter to measure net electricity delivered by the project to the grid, located in the Quinta Substation. Quinta substation is owned by CEEE (state-owned electricity company). All meters related to the project are model ION 8600C (class 0.2 accuracy level).

Figure 3: Diagram of the project meters



V – Meters Accuracy and Calibration Procedures:

Regarding the class of accuracy, energy meters meet all relevant metrological requirements prescribed in Metrological Technical Regulation (Regulamento Técnico Metrológico – RMT) for Class 0.2 of energy meters, approved by INMETRO.

Calibration of energy meters is regulated by the National Interconnected Power System Operator (ONS) and shall be conducted by a qualified organization in compliance with national standards and industrial regulations to ensure accuracy. ONS Grid Procedures (Sub-module 12.3) establishes calibration frequency and other maintenance procedures.

When the PDD was elaborated, the calibration frequency required by ONS was a maximum of two years. The PDD registered that in the case of any changes occurred in the ONS Grid Procedures, the project owners shall follow the rules from the relevant sector organizations (e.g. ONS, ANEEL, CCEE). In December/2016, ONS Sub-module 12.3 was updated and it established that **meter's calibration should happen each 5 (five) years**.

Meters that measure the quantity of net electricity generation delivered to the grid by the project activity were installed in 09/12/2014[8]. They were calibrated two times during this monitoring period:

2016

Principal Meter
Model ION 8600.
Meter Serial Number: PT-1205A318-01.
Accuracy Class: D (0.2%)

[8] Comisssioning Report_Quinta Substation, page 4/16.

Calibration Date: August 30, 2016.
Calibration Validity according to ONS: August 30, 2021.

Rear Meter

Model ION 8600.
Meter Serial Number: PT-1205A495-01.
Accuracy Class: D (0.2%)
Calibration Date: June 08, 2020.
Calibration Date: August 30, 2016.
Calibration Validity according to ONS: August 30, 2021.

2020

Principal Meter
Model ION 8600.
Meter Serial Number: PT-1205A318-01.
Accuracy Class: D (0.2%)
Calibration Date: June 08, 2020.
Calibration Validity according to ONS: June 08, 2025.

Rear Meter

Model ION 8600.
Meter Serial Number: PT-1205A495-01.
Accuracy Class: D (0.2%)
Calibration Date: June 08, 2020.
Calibration Validity according to ONS: June 08, 2025.

Emission Factors:

Project Emission reductions calculation is carried out by Enerbio Consultoria. To calculate the emission factors, data supplied by Brazilian DNA is used.

Project Emission Reductions Calculation:

Enerbio Consultoria is responsible for emission reductions calculation in the monitoring period of the project activity. The emission reductions follows the equations provided in the registered PDD.

Archivement Period:

All data collected as part of monitoring will be electronically archived and be kept at least for 2 years after the end of the last crediting period.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante

The PDD registered did not present any data or parameter fixed ex ante at the registration of the project activity.

D.2. Data and parameters monitored

Data/Parameter	$EG_{facility,y}$
Unit	MWh/yr
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y*
Measured/calculated/ default	Measured
Source of data	Meters located at the project activity
Value(s) of monitored parameter	2021:190,280.82 MWh

Monitoring equipment	There are two meters (one principal and one rear) located at the substation Quinta that measure $EG_{facility,y}$. Meters have the following characteristics: **Principal Meter** Model ION 8600. Meter Serial Number: PT-1205A318-01. Accuracy Class: D (0.2%) **Rear Meter** Model ION 8600. Meter Serial Number: PT-1205A495-01. Accuracy Class: D (0.2%) Meters calibrations follow ONS Sub module 12.3 procedures. Until 16/12/2016, ONS used to require calibration each two years. From this date, ONS started to request calibration each five years. Meters were calibrated two times during this monitoring period **Principal Meter** Meter Serial Number: PT-1205A318-01. Calibration Date: August 30, 2016. Calibration Validity according to ONS: August 30, 2021. **Rear Meter** Meter Serial Number: PT-1205A495-01 Calibration Date: August 30, 2016. Calibration Validity according to ONS: August 30, 2021 **Principal Meter** Meter Serial Number: PT-1205A318-01. Calibration Date: June 08, 2020. Calibration Validity according to ONS: June 08, 2025. **Rear Meter** Meter Serial Number: PT-1205A495-01. Calibration Date: June 08, 2020. Calibration Validity according to ONS: June 08, 2025.
Measuring/reading/recording frequency	Continuous monitoring, hourly measurement, and at least monthly recording.
Calculation method (if applicable)	It is a measured data.
QA/QC procedures	Data of $EG_{facility,y}$ is monitored by project participants and counter-checked with spreadsheets provided by CCEE, entity responsible for electricity contracts settlement in Brazil.
Purpose of data/parameter	Baseline emissions calculation
Additional comments	

Data/Parameter	**$EF_{grid,CM,y}$**
Unit	tCO_2/MWh
Description	Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”.
Measured/calculated/ default	Calculated

Source of data	Calculated by project participants using the latest version of the "Tool to calculate the emission factor for an electricity system" and hourly $EF_{grid,OM,y}$ and $EF_{grid,BM,y}$ published by Brazilian DNA.
Value(s) of monitored parameter	2021:0.4141 tCO2/MWh
Monitoring equipment	Not applicable. CO2 emission factor of the grid electricity in year y is calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" and values of EFgrid,OM,y and EFgrid,BM,y published by Brazilian DNA
Measuring/reading/recording frequency	Annual.
Calculation method (if applicable)	As described in the most recent version of the "Tool to calculate the emission factor for an electricity system". The combined margin emission factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} \times W_{OM} + EF_{grid,BM,y} \times W_{BM}$ **Equation 01** Where: $EF_{grid,BM,y}$ = Build margin CO2 emission factor in year y (tCO2/ MWh) $EF_{grid,OM,y}$ = Operating margin CO2 emission factor in year y (tCO2/ MWh) W_{OM} = Weighting of operating margin emissions factor (%) W_{BM} = Weighting of build margin emissions factor (%) $EF_{grid,BM,y}$ and $EF_{grid,OM,y}$ are calculated and provided by Brazilian DNA. For the first crediting period of wind power plants projects: W_{OM} = 0.75 and W_{BM} = 0.25, as recommended by the "Tool to calculate the emission factor for an electricity system".
QA/QC procedures	As described in the most recent version of the "Tool to calculate the emission factor for an electricity system". The uncertainty level for these data is low
Purpose of data/parameter	Baseline emissions calculation
Additional comments	$EF_{grid,BM}$ and $EF_{grid,OM}$ for 2021 had not been published until the end of this Monitoring Report elaboration. $EF_{grid,BM}$ and $EF_{grid,OM}$ of 2019 was used for $EF_{grid,CM,}$ 2021 calculation because it is the latest data available published by Brazilian DNA.

D.3. Implementation of sampling plan

Not applicable. No sampling plan is implemented.

SECTION E. Calculation of emission reductions or net anthropogenic removals

E.1. Calculation of baseline emissions or baseline net removals

The baseline methodology ACM0002, version 13.0.0, establishes that baseline emissions include only CO_2 emissions from electricity generation by fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emission is calculated as follows::

$$BEy = EG_{PJ,y} * EF_{grid,CM,y}$$ **Equation 02**

Where:

BEy = Baseline emissions in year *y* (tCO_2/yr)
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year *y* (MWh/yr)
$EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year *y* calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO_2/MWh)

If the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield renewable energy power plants), then:

$$EG_{PJ,y} = EGfacility,y \qquad \textbf{Equation 03}$$

Where:
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year *y* (MWh/yr);
$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y* (MWh/yr).

To calculate $EF_{grid,CM,y}$, it was used data supplied by Brazilian Designated National Authority (DNA), which publishes Dispatch Data Analysis Operating Margin Emission Factor ($OM_{Grid,y}$) and the Build Margin Emission Factor ($BM_{Grid,y}$) using the tool to calculate the emission factor for an electricity system.

The combined margin emission factor is calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} \times W_{OM} + EF_{grid,BM,y} \times W_{BM} \qquad \textbf{Equation 01}$$

Where:

$EF_{grid,BM,y}$ = Build margin CO_2 emission factor in year *y* (tCO_2/ MWh)
$EF_{grid,OM,y}$ = Operating margin CO_2 emission factor in year *y* (tCO_2/ MWh)
W_{OM} = Weighting of operating margin emissions factor (%)
W_{BM} = Weighting of build margin emissions factor (%)

For wind power generation project activities, W_{OM} = 0.75 and W_{BM} = 0.25 shall be used for the first crediting period.

Table below presents the parameters used to calculate baseline emissions and the results per year.

Table 5: Baseline Emissions (tCO_2e)

Years	EGFacility,y (MWh)	$Ef_{grid,OM,Y}$ (tCO2e/MWh)	$Ef_{grid,BM,y}$ (tCO2e/MWh)	W_{OM} (%)	W_{BM} (%)	$EF_{grid,CM,y}$ (tCO2e/MWh)	Baseline Emissions (BE,y) (tCO2e)
2021	190,280.82	0.5181	0.1020	0.75	0.25	0.4141	78,789
Total	**190,280.82**						**78,789**

E.2. Calculation of project emissions or actual net removals

According to the methodology adopted, for most renewable power generation project activities, PE_y = 0. However some project activities may involve project emissions that can be significant. These emissions shall be accounted as project emissions by using the following equation:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y} \quad \textbf{Equation 04}$$

Where:
PE_y = Project emissions in year *y* (tCO_2e/yr)
$PE_{FF,y}$ = Project emissions from fossil fuel consumption in year *y* (tCO_2/yr)
$PE_{GP,y}$ = Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year *y* (tCO_2e/yr)
$PE_{HP,y}$ = Project emissions from water reservoirs of hydro power plants in year *y* (tCO_2e/yr).

For this project actitivy, Project $PE_{FF,y,}$ $PE_{GP,y}$ and $PE_{GP,y}$ are zero.

E.3. Calculation of leakage emissions

According to AACM0002 methodology, version 13.0.0, no leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (extraction. processing. and transport). These emissions sources are neglected.

E.4. Calculation of emission reductions or net anthropogenic removals

Table 6: Emission reductions of the project activity

	Baseline GHG emissions or baseline net GHG removals (t CO_2e)	Project GHG emissions or actual net GHG removals (t CO_2e)	Leakage GHG emissions (t CO_2e)	GHG emission reductions or net anthropogenic GHG removals (t CO_2e)			
				Before 01/01/ 2013	From 01/01/ 2013 until 31/12/ 2020	From 01/01/ 2021	Total amount
Total	78,789	0	0	0	0	78,789	78,789

E.5. Comparison of emission reductions or net anthropogenic removals achieved with estimates in the registered PDD

Table 7: Emission reductions achieved X estimates in the registered PDD

Amount achieved during this monitoring period (t CO_2e)	Amount estimated ex ante for this monitoring period in the PDD (t CO_2e)
78,789	55,014

E.5.1. Explanation of calculation of "amount estimated ex ante for this monitoring period in the PDD"

The ex ante estimation in the PDD considered the following parameters:

$EG_{facility,y}$ =448,365 MWh/year
$EF_{grid,CM2011}$ = 0.2454 tCO2e/MWh
ERy = 110,013 tCO2e/year

Considering six months period (from 01-01-2021 to 30-06-2021), $EG_{facility,y}$ would be 224,182.5 MWh and the amount estimated ex ante for this monitoring period is **55,014 tCO2e (**224,182.5 MWh x 0.2454 tCO2e/MWh)

E.6. Remarks on increase in achieved emission reductions

The increase in achieved emission reductions was due to higher $EF_{grid,CM,y}$ in all years of the monitoring period. $EF_{grid,CM,y}$ of the PDD registered was based on 2011 data which was the latest data available when the PDD was registered.

This increase in the $EF_{grid,CM,y}$ is associated with the higher levels of GHG-intensive electricity generation in the year of the monitoring period comparing to the levels of 2011.

Table below shows a comparison of $EF_{grid,CM,y}$ of all years from the monitoring period comparing to 2011 levels.

Table 8: $EF_{grid,CM,y}$ during de Monitored Period

Year	Ex-Ante Estimated $EF_{grid,CM,y}$ in the PDD (tCO2e/MWh) (A)	Monitored $EF_{grid,CM,y}$ (tCO2e/MWh) (B)	Variation (%) (B/A)
2021	0.2454	0.4141	69%

EGfacility,y used for PDD ex-ante estimation was 224,182.5 MWh. The project delivered 17% less than projected for the monitoring period. $EG_{facility,y}$ was minor than ex ante estimated in the registered PDD due to worse wind conditions than predicted.

Table 9: Estimated$_{facility,y}$ variation in the Monitored Period

Year	Ex-Ante Estimated $EG_{facility,y}$ in the PDD (MWh) (A)	Monitored $EG_{facility,y}$ (tCO2e/MWh) (B)	Variation (%) (B/A)
2021	224,182.5	190,280.82	-17%

E.7. Remarks on scale of small-scale project activity

Not applicable. The project activity is not a small-scale project activity.

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Document information

Version	*Date*	*Description*
08.0	6 April 2021	Revision to: • Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
07.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN); • Add a section on remarks on the observance of the scale limit of small-scale project activity during the crediting period; • Add "changes specific to afforestation or reforestation project activity" as a possible post-registration changes; • Clarify the reporting of net anthropogenic GHG removals for A/R project activities between two commitment periods; • Make editorial improvements.
06.0	7 June 2017	Revision to: • Ensure consistency with version 01.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN); • Make editorial improvements.
05.1	4 May 2015	Editorial revision to correct version numbering.
05.0	1 April 2015	Revisions to: • Include provisions related to delayed submission of a monitoring plan; • Provisions related to the Host Party; • Remove reference to programme of activities; • Overall editorial improvement.
04.0	25 June 2014	Revisions to: • Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1; • Change the reference number from *F-CDM-MR* to *CDM-MR-FORM*; • Editorial improvement.
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.

Version	*Date*	*Description*
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB 70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01.0	28 May 2010	EB 54, Annex 34. Initial adoption.

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