Monitoring report form for CDM project activity (Version 08.0)

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

MONITORING REPORT			
Title of the project activity	Cachoeirao CDM Project (JUN1092)		
UNFCCC reference number of the project activity	4788		
Version number of the PDD applicable to this monitoring report	3		
Version number of this monitoring report	1		
Completion date of this monitoring report	08/06/2021		
Monitoring period number	First monitoring period – Second crediting period		
Duration of this monitoring period	03/02/2019 – 30/04/2021		
Monitoring report number for this monitoring period	N/A		
Project participants	Hidrelétrica Cachoeirão S.A and Carbotrader Assessoria e Consultoria em Energia Ltda		
Host Party	Brazil		
Applied methodologies and standardized baselines	ACM0002 ver. 20.0 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources		
Sectoral scopes	Sectoral Scope 1 – Energy Industries (Renewable / Non-renewable Sources)		
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 tCO_2e	47,614 tCO_2e	13,120 tCO_2e
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	76,143 tCO_2e		

SECTION A. Description of project activity

A.1. General description of project activity

The project activity purpose is renewable source electricity generation (hydro source), through the Small Hydro Powerplant (SHP) Cachoeirão.

The total SHP power installed capacity is 28.05 MW (3 Francis Turbine 9,300 kW each and 3 Synchronous Generators 9,350 kW each, PLF of 16.37 MWavg) and is located in Manhuaçu River between the Pocrane and Alvarenga cities, Minas Gerais State in Brazil south-east region.

This enterprise has as main goal the generation of electricity that must be delivered to the National Interconnected System (SIN) compensating the thermal generation from fossil fuels in this system with the generation of renewable electricity.
Moreover, contributes with the environmental sustainability increasing the share of renewable energy in relation to total consumption of electricity in Brazil.

Considering that the project activity consists in SHP with small reservoir (1.021 km^2), it is virtually zero environmental impact when compared to the large hydroelectric facilities. This fact is important because the construction of Small Hydro Power plants contributes to the efficient use of natural resources and environment, thus avoiding the growth of environmental and social liabilities caused by new large hydroelectric plants.

In regard to the project contribution for Greenhouse Gas emissions (GHG) reduction, the project activity reduces emissions of these gases preventing the operation of thermoelectric plants that use fossil fuels as energy inputs. In the absence of the project activity, fossil fuels would be burned in thermoelectric plants which are interconnected with the grid.

The project activity is also in line with the specific requirements of the CDM (Clean Development Mechanism) of the host country, because:

- It contributes to environmental sustainability as reduce the use of fossil energy (non-renewable sources). Thus the project contributes to the best use of natural resources and makes use of clean and efficient technologies;
- It contributes to better working conditions and increases the opportunity for employment in rural area where the project is located;
- It contributes to local economy better conditions, because the renewable energy use reduces the fossil fuels dependence, reduce the pollution and the social costs associated to it.

Relevant dates for the PA:

Table 1 : SHP Main events

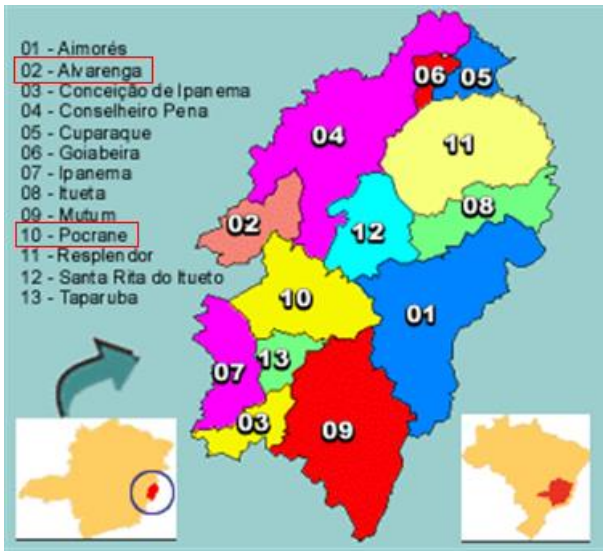
Event	Date	Evidences
Service Order for power plant construction start **(Start Date)**	mar/07	Project Schedule / Service Order document
SHP assembly Services beginning (Mobilization)	mar/07	ANEEL and Project Schedule
Unit #1 assembly beginning	may/08	Project Schedule
Unit #2 assembly beginning	jul/08	Project Schedule
Unit #3 assembly beginning	aug/08	Project Schedule
Unit #1 commercial operation start date	dec/08	ANEEL
Unit #2 commercial operation start date	feb/09	ANEEL
Unit #3 commercial operation start date	feb/09	ANEEL
PDD registration	feb/12	UNFCCC website
PDD renewal	Sep/20	UNFCCC website

More SHP technical details are well described in the Section B.1.

A.2. Location of project activity

The project activity is located in the Manhuaçu River in the municipalities of the Pocrane and Alvarenga, Minas Gerais State, Brazil. The geographical coordinates of the dam location dam are: 19º 26' 12" S e 41º 36' 51" W.
Below the Figure 1 illustrates the location of project activity:

Figure 1: Geographical location of Pocrane and Alvarenga cities.



Source: Wikipedia - pt.wikipedia.org and City Brazil - www.citybrazil.com.br[1]

A.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Brazil (Host Country)	Hidrelétrica Cachoeirão S.A (Private Entity)	No
	Carbotrader Assessoria e Consultoria em Energia Ltda (Private Entity)	

A.4. References to applied methodologies and standardized baselines

The methodology used was ACM0002: **"Consolidated baseline methodology for grid-connected electricity generation from renewable sources" - version 20.0**
Link:
https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG

TOOL 07: "Tool to calculate the emission factor for an electricity system", version 07.0"
Link: https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

[1] City Brasil – Percorrendo o Brasil de A a Z (A to Z walking Brazil). http://www.citybrasil.com.br

A.5. Crediting period type and duration

From 03/02/2019 until 02/02/2026 (Type: Renewable)

SECTION B. Implementation of project activity

B.1. Description of implemented project activity

During the monitoring period the PA status is the SHP already implemented and fully operational.

The technology used in PA is the Manhuaçu River (Rio Doce Basin) hydro energy use, the water gravitational energy is used to move the turbines and doing this, triggers generators that enable the electricity generation. This is a clean and renewable energy source that presents minimal impact on the environment.

The SHP Cachoeirão is classified as a Small Hydro Power Plant because according to Brazilian Resolution number 652 of 09/12/2003, from National Electricity Energy Agency (ANEEL), to be considered a SHP the reservoir area must be less than 3 Km^2 (300 ha) and the total installed capacity between 1 MW to 30 MW. The SHP Cachoeirão has 1.021 Km^2 of reservoir area and total installed capacity of 28.05 MW, so the Power Density is 27.47 W/m^2 (in accordance with CDM meth eligibility requirements). The venture is also called **"run of river"** power plant which does not include significant water stocks.

The SHP Cachoeirão dispatch generated energy to the National Interconnected Grid (*SIN - Sistema Interligado Nacional*) through the Conselheiro Pena Substation located in the Conselheiro Pena city, Minas Gerais state, Brazil (far 32.8 Km from the SHP' substation, with 69 kV of voltage).

The technical characteristics of equipment that was implemented in SHP can be seen in Table 1 below:

Table 2 : SHP technical characteristics

SHP	**Cachoeirão**
Installed Power (MW)	28.05
Single Reservoir (Km^2)	1.021
Plant Load Factor (MW)	16.37
Flow Rate River Average (m^3/s)	47
Turbines	Francis, horizontal
Quantity	3
Power (kW)	9,300
Flow Rate (m^3/s)	22.45
Rotation (rpm)	360
Generators	Synchronous, horizontal
Quantity	3
Nominal Power (kVA)	11,000
Effective Power (kW)	9,350
Voltage (kV)	13.8
Load Factor	0.85
Frequency (Hz)	60

The project boundary includes CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. Project and leakage emissions are not expected.

A complete diagram was included on the Section C.

B.2. Post-registration changes

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

Not Applicable

B.2.2. Corrections

Not Applicable

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

Not Applicable

B.2.4. Inclusion of monitoring plan

Not Applicable

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

Not Applicable

B.2.6. Changes to project design

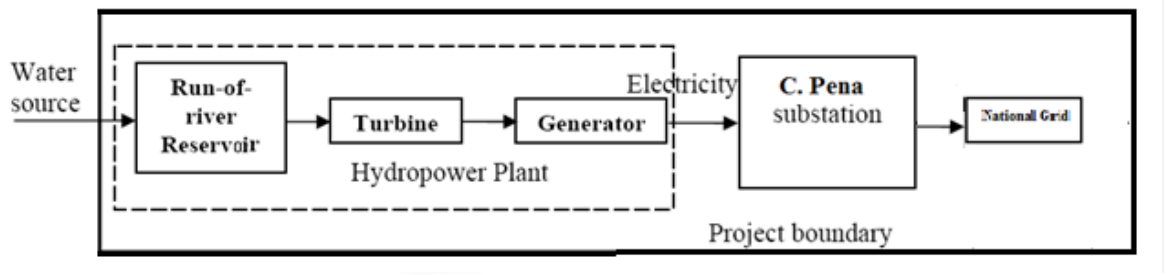
Not Applicable

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

Not Applicable

SECTION C. Description of monitoring system

The diagram below shows the project boundary, main equipments and flows energy:



Gases included: CO_2

Monitored Parameters: $EG_{facility,y}$ $EF_{grid,CM,y}$ Cap_{PJ} A_{PJ}

The project activity monitoring plan is based on CDM Project Standard and Methodology ACM0002 version 20.0. This meth requires the project activity monitoring of: Power generation and measurement system, Emission Factors, the reservoir surface area and the total installed capacity after project construction. Based on these requirements we have:

1) Power generation and measurement system:

General characteristics of the measurement system:

The electricity generation monitoring follows the standards and requirements of the Brazilian energy sector. The National Grid Operator (ONS) and the Electric Power Commercialization Chamber (CCEE) are the entities responsible for technical requirements specification for energy measurement system and billing, so, these entities approves and provide assessment to the energy projects for accurate electricity accounting and commercialization.

The agent responsible for measurement system for billing (SMF) develops the project in accordance with technical specifications, which should include the measurement location, measurement panels, meters (main and backup) and systems for local and remote measurement.

The “measurement system” makes the measure and records the generated electricity. The meters are installed inside measurement panel, which is located in the substation control room. For this system is guaranteed the data inviolability since must be sealed by the local energy company just after the commissioning.

The measurement system also contains a communication system that records and reports the SHP’s electricity delivered to the grid for the CEMIG/CCEE/ANEEL and PP (this one, through encrypted channel access).

Data monitoring:

The meters registrations are used for calculating the emission reductions. The monitoring steps are as follow:

(1) The data will be measured hourly and recorded monthly;
(2) The reports of the electricity delivered to the grid can be cross checked with the CCEE data storage (from CCEE databank – SINERCON);
(3) The project owner provides DOE with meters readings record and access to CCEE databank (SINERCOM);
(4) The SHP operational structure is managed by the Hidrelétrica Cachoeirão S.A.;
(5) Also the non operational structure should be managed by the Hidrelétrica Cachoeirão management responsible;
(6) The emission reductions and any project emission is managed by the Carbotrader project manager responsible;

Quality control:

(1) Meters Calibration

The meters calibration is conducted by qualified organization that must comply with national standards and industrial regulations to ensure accuracy. The meters must be sealed for safety after calibration. The calibration records must be archived together with other monitoring records. The equipment class of accuracy follows the national standards (NBR 14519 from *Associação Brasileira de Normas Técnicas* – Brazilian Association of Technical Standards). It can be viewed in the Grid Procedures from the National Grid Operator: Module 2, Sub-module 2.14 Installation of the Measurement System for Billing in the link:

http://www.ons.org.br/paginas/sobre-o-ons/procedimentos-de-rede/vigentes

(Procedures from the ONS – Module 2)

(2) Emergency treatment

In case of measures unavailability from any measurement point, due to maintenance, commissioning or any other reason, will be used the methodology to estimate data as the item 2.14 of Energy Commercialization Procedure.

Data Management:

All project activity issues regarding the SHP's construction is treated by the responsible SPE Cachoeirão Energy Directors.

The emission reductions is calculated regularly by the project proponents and kept for the verification phase

All data monitored and required for verification and issuance should be kept for two years after the end of the crediting period or the last issuance of CERs for this project activity, whichever occurs later.

Training Procedures:

All the training necessary for the plant operational team (eventually remote and local operators) is provided during the plant commercial operation.

Furthermore, operation, maintenance and calibration procedures must follow the national guidelines set by the National Grid Operator.

2) Emission Factors:

The Emission Factor related to this project activity ($EF_{grid,CM,y}$, $EF_{grid,OM\text{-}DD,y}$) are available by the brazilian DNA and can be accessed on the following website (https://antigo.mctic.gov.br/mctic/opencms/ciencia/SEPED/clima/textogeral/emissao_despacho.html). The parameter $EF_{grid,BM,y}$ is already fixed ex-ante.
More details are well described on Sections D and E of this MR.

3) Total Installed capacity – Cap_{PJ}:

The installed capacity of the hydro power plant after the project activity implementation is monitored yearly through the following options:

- Technical specifications on the installed equipments;
- Installed plaques in the equipments;
- Datasheets.

In Brazil, the installed capacity of hydropower plants is determined and authorized by the competent regulatory agency. Furthermore, any modification must also be authorized and made public available.

4) Reservoir Area – A_{PJ}:

The area of the single reservoir is measured in the surface of the water, after the implementation of the project activity, when the reservoir is full.

Authority and Responsibility

The Hidrelétrica Cachoeirão S.A. is the responsible for the maintenance and calibration of the monitoring equipments, compliance to operational requirements and corrective actions related to the project activity functionality. Moreover, the company has authority and responsibility for registration, monitoring, and measurement as well as managing all issues about the project activity, also to organize staff and third party training to use appropriated techniques related to the applicable legislation.

The Baseline, Project Emissions (if applicable) and Emissions Reductions calculations is performed by the Carbotrader Assessoria e Consultoria em Energia Ltda which reports the results in a proper way to the entities related with the CDM process.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante

Data/Parameter	Cap_{BL}
Unit	W
Description	Installed capacity of the hydro power plant before the implementation of the project activity. For new hydro power plants, this value is zero.
Source of data	Project site
Value(s) applied	0
Choice of data or measurement methods and procedures	Determine the installed capacity based on recognized standards.
Purpose of data/parameter	Calculation of project emissions
Additional comments	-

Data/Parameter	A_{BL}
Unit	m^2
Description	Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m^2). For new reservoirs, this value is zero.
Source of data	Project site
Value(s) applied	0
Choice of data or measurement methods and procedures	Measured from topographical surveys, maps, satellite pictures, etc.
Purpose of data/parameter	Calculation of project emissions
Additional comments	-

Data/Parameter	$EF_{grid,BM,y}$
Unit	tCO_2/MWh
Description	CO_2 Build Margin emission factor of the grid, in a year *y*
Source of data	Based on data provided by DNA (Designated National Authority).
Value(s) applied	0.1370
Choice of data or measurement methods and procedures	The Building Margin Emission Factor is collected in DNA website, which is the responsible for this calculation.

Purpose of data/parameter	Calculation of baseline emissions
Additional comments	-

D.2. Data and parameters monitored

Data/Parameter	$EG_{facility,y}$
Unit	MWh/year
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	Energy Meter
Value(s) of monitored parameter	2019 = 64,268.83 2020 = 151,171.82 2021 = 60,678.87
Monitoring equipment	Type: ION 8600 Schneider Electric; Accuracy class: 0.2%; Serial number: Main Meter code PT-0801A126-01 and Backup Meter code PT-0801A128-01; last calibration on 25/08/2015 valid until 24/08/2020.
Measuring/reading/recording frequency	The net electricity delivered to the grid is checked through the energy mutterings. The meter complies with national standards and industry requirements to ensure accuracy. The meter is sealed for safety after calibration. The readings are made through encrypted electronic channel directly from the meter. Hourly recording frequency and monthly stored/registered.
Calculation method (if applicable)	N/A
QA/QC procedures	These data will be used for calculate the emission reductions. The data will be archived monthly (electronic) and will be archived during the credit period and two years after. The data from the energy meters will be cross checked with the invoice of energy sales or with the CCEE databank in order to verify the coherency of the data.
Purpose of data/parameter	Calculation of baseline emissions
Additional comments	-

Data/Parameter	$EF_{grid,CM,y}$
Unit	tCO_2/MWh
Description	Brazilian grid emission factor.
Measured/calculated/ default	calculated
Source of data	Based on data provided by DNA (Designated National Authority).
Value(s) of monitored parameter	2019 = 0.2323 2020 = 0.2162 2021 = 0.2162
Monitoring equipment	-
Measuring/reading/recording frequency	Annual reading and recording frequency
Calculation method (if applicable)	The Combined Margin is calculated through a weighted-average formula, considering the $EF_{grid,OM\text{-}DD,y}$ and the $EF_{grid,BM,y}$ and the weights w_{OM} = 0.25 and w_{BM} = 0.75.
QA/QC procedures	-
Purpose of data/parameter	Calculation of baseline emissions

Additional comments	-

Data/Parameter	$EF_{grid,OM-DD,y}$
Unit	tCO_2/MWh
Description	CO_2 Operating Margin emission factor of the grid, in a year *y*
Measured/calculated/ default	calculated
Source of data	Based on data provided by DNA (Designated National Authority).
Value(s) of monitored parameter	2019 = 0.5181 2020 = 0.4539 2021 = 0.4539
Monitoring equipment	-
Measuring/reading/recording frequency	Monthly reading and annual recording frequency
Calculation method (if applicable)	The Operating Margin Emission Factor is collected in DNA website, which is the responsible for this calculation.
QA/QC procedures	-
Purpose of data/parameter	Calculation of baseline emissions
Additional comments	Values from 2021 are the same for 2020 (ultimate available data)

Data/Parameter	Cap_{PJ}
Unit	W
Description	Installed capacity of the hydro power plant after the implementation of the project activity.
Measured/calculated/ default	measured
Source of data	Technical specifications on the installed equipments
Value(s) of monitored parameter	28,050,000 W
Monitoring equipment	Equipments plaques or datasheets
Measuring/reading/recording frequency	Once at the beginning of each crediting period
Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data/parameter	Calculation of project emissions
Additional comments	-

Data/Parameter	A_{PJ}
Unit	m^2
Description	Area of the single or multiple reservoirs measured in the water surface, after the implementation of the project activity, when the reservoir is full.
Measured/calculated/ default	measured
Source of data	Measured from topographical surveys, maps, satellite pictures, etc
Value(s) of monitored parameter	1,021,000
Monitoring equipment	-
Measuring/reading/recording frequency	Once at the beginning of each crediting period

Calculation method (if applicable)	-
QA/QC procedures	-
Purpose of data/parameter	Calculation of project emissions
Additional comments	-

D.3. Implementation of sampling plan

Not applicable.

SECTION E. Calculation of emission reductions or net anthropogenic removals

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

The baseline methodology considers the determination of the emissions factor to the grid which the project activity is connected as the core data to be determined in the baseline scenario. In Brazil, the grid is interconnected by the National Interconnected System (SIN) in a single system.

"Operating Margin *OM* Emission Factor" calculation ($EF_{grid,OM,y}$)

The Emission Factor (OM) calculated by the Dispatch Data Analysis is summarized as follows:

$$EF_{grid,OM-DD,y} = \frac{\sum_{h} EG_{PJ,h} \cdot EF_{EL,DD,h}}{EG_{PJ,y}}$$

Where:

$EF_{grid,OM-DD,y}$	Dispatch data analysis operating margin CO_2 emission factor in year y (tCO_2/MWh);
$EG_{PJ,h}$	Electricity displaced by the project activity in hour h of year y (MWh);
$EF_{EL,DD,h}$	CO_2 emission factor for power units in the top of the dispatch order in hour h in year y (tCO_2/MWh);
$EG_{PJ,y}$	Total electricity displaced by the project activity in year y (MWh);
h	Hours in year y in which the project activity is displacing grid electricity;
y	Year in which the project activity is displacing grid electricity.

The calculation of the $EF_{grid,OM-DD,y}$ was done using the formula above and the datas from the spreadsheets "*CERs 3rd MR_rev1.xls*" tabs "2019 , "2020", "2021" .

Below, follow a summary of $EF_{grid,OM,y}$:

	SHP Cachoeirão
$EF_{grid,OM,2019}$ (tCO2/MWh)	0.5181
$EF_{grid,OM,2020}$ (tCO2/MWh)	0.4539
$EF_{grid,OM,2021}$ (tCO2/MWh)	0.4539

"Building Margin *BM* Emission Factor" ($EF_{grid,BM,y}$)

The $EF_{grid,BM,y}$ also is published by the Brazilian DNA annually and it is available in its website[2].

$EF_{grid,BM,2019,2020,2021}$= 0.1370 tCO_2/MWh

[2] https://antigo.mctic.gov.br/mctic/opencms/ciencia/SEPED/clima/index.html

"Baseline Emission Factor" calculation ($EF_{grid,CM,y}$)

The baseline emission factor ($EF_{grid,CM,y}$) is calculated through a weighted-average formula, considering the $EF_{OM,,}y$ with 25% and the $EF_{BM,,}y$ weighted with 75%, that results:

$$EF_{grid,CM,y} = EF_{grid,OM,y} * 0.25 + EF_{grid,BM,y} * 0.75 \ (tCO_2/MWh)$$

Year	$EF_{grid,OM,y}$ (tCO_2/MWh)	$EF_{grid,BM,y}$ (tCO_2/MWh)	$EF_{grid,CM,y}$ (tCO_2/MWh)
2019	0.5181	0.1370	0.2323
2020	0.4539	0.1370	0.2162
2021	0.4539	0.1370	0.2162

Emission Reduction

The emissions reduction (**ER**) of this project activity is:

$$ER = BE_y - (L_y + PE_y)$$

Since to this project leakages is not considered, thus:

L_y **= 0**

And also the project emission is zero:

PEy **=0**

So

$$ER = BE_y$$

The baseline emissions (BE_y) would be then proportional to the electricity delivered to the grid throughout the project's lifetime. Baseline emissions due to displacement of electricity are calculated by multiplying the electricity baseline emissions factor ($EF_{grid,CM,y}$) with the electricity generation of the project activity (EG_y).

$$BE_y = EF_{grid,CM,y}. EG_y$$

Then:

Year	$EF_{grid,CM,y}$ (tCO_2/MWh)	EG_{PJ} (MWh)	ERs (tCO_2e)
2019	0.2323	64,268.83	14,927
2020	0.2162	151,171.32	32,687
2021	0.2162	60,678.87	13,120

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

The power density of the project activity is calculated as stated in the ACM0002: **"Consolidated baseline methodology for grid-connected electricity generation from renewable sources" - version 20.0,** that follows below:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}}$$

Where:

PD Power density of the project activity, in W/m^2.
Cap$_{PJ}$ Installed capacity of the hydro power plant after the implementation of the project activity (W).
Cap$_{BL}$ Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero.
A$_{PJ}$ Area of the single or multiple reservoirs measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m^2)
A$_{BL}$ Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m^2). For new reservoirs, this value is zero.

$$PD = \frac{28{,}050{,}000 - 0}{1{,}021{,}000 - 0} = 27.47 \text{ W/m}^2$$

As the Power density of the project activity is greater than 10W/m^2, then Project Emissions (PE) is zero.

As stated in the ACM0002, the Emission Reductions are calculated by the form below:

$ER_y = BE_y – PE_y$

Where:
ER_y = Emission reductions in year *y* (t CO_2e)
BE_y = Baseline emissions in year *y* (t CO_2)
PE_y = Project emissions in year *y* (t CO_2e)

Then,

$ER = (ER_{2019} + ER_{2020} + ER_{2021}) - 0$
$ER = (14{,}927 + 32{,}687 + 13{,}120) - 0 = 60{,}734$ t CO_2e

This is the ER total for the period considered (see also: electronic spreadsheet “CERs 3rd MR_rev1.xls”).

E.3. Calculation of leakage emissions

There is no leakage associated with this project activity.

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

	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	60,734	0	0	0	47,614	13,120	60,734

E.5. Comparison of emission reductions or net anthropogenic removals achieved with 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)
60,734	76,143

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

The amount estimated ex ante is the same for 2019, 2020, and 2021 years described on registered PDD (76,143 tCO_2e).

E.6. Remarks on increase in achieved emission reductions

The emission reductions in this monitored period not achieved increase in emission reduction.

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

Not applicable.

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.
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).

Version	*Date*	*Description*
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.

Decision Class: Regulatory
Document Type: Form
Business Function: Issuance
Keywords: monitoring report