Monitoring report form for CDM project activity
(Version 06.0)

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

MONITORING REPORT		
Title of the project activity	Bajo Tuluá Minor Hydroelectric Power Plant	
UNFCCC reference number of the project activity	3599	
Version number of the PDD applicable to this monitoring report	3.5	
Version number of this monitoring report	01	
Completion date of this monitoring report	31/10/2018	
Monitoring period number	1st	
Duration of this monitoring period	29/11/2011 – 31/12/2017 (firs and last days included)	
Monitoring report number for this monitoring report	01	
Project participants	EPSA S.A. E.S.P. Gas Natural SDG S.A.	
Host Party	Colombia	
Sectoral scopes	1: Energy industries (renewable - / non-renewable sources)	
Applied methodologies and standardized baselines	ACM0002 ver. 10 - Consolidated methodology for grid-connected electricity generation from 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
	0 t CO_2e	75,389 t CO_2e
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	138,100 t CO_2e	

SECTION A. Description of project activity

A.1. General description of project activity

The project activity consists of a hydroelectric power plant, with an installed capacity of 20 MW[1], with the aim of making use of the capacity of the Tuluá river. The project contributes to the improvement in the efficiency of the electricity system in general; increasing the electricity service in the department of the Cauca Valley, while contributing to the sustainable development of the region with the reduction of CO_2 emissions.

The Bajo Tuluá Minor Hydroelectric Power Plant (hereafter, the project activity or project) is owned and operated by Empresa de Energía del Pacífico S.A. E.S.P. (hereafter, the project proponent). The project activity is a hydroelectric power plant that utilizes water from the Tuluá river, located in the department of the Cauca Valley, Colombia (hereafter, the Host Country).

The energy that is generated by the project is dispatched to the National Interconnected System (SIN[2]). Thus, it contributes to sustainable development by increasing the share of renewable energy and reducing GHG emissions.

During the current reporting period from 29/11/2011 to 31/12/2017, the project has generated 222,887 MWh and reduced 75,389 tons of CO_2e.

A.2. Location of project activity

The project of the Minor Hydroelectric Power Plant of Bajo Tuluá is located on the middle section of the basin of the Tuluá River. The water flows through the river points 1,477 and 1,247 metres above sea level, in the department of the Cauca Valley, municipalities of Tuluá, Buga and San Pedro. The water intake point is located on the left margin in the Crucero Nogales borough, Crucero Nogales district at the height of the Cristalina ravine, municipality of Buga. The engine house is located in the height 1,247, and the discharge is above the mouth of La Esmeralda ravine into the Tuluá River, in the Esmeralda district, in the municipality of San Pedro. The electrical distribution line starts in the engine house and finish in the Tuluá sub-station and it pass through the municipalities of Buga, San Pedro and Tuluá.

In particular, the water intake point is located on the following coordinates (in decimal format):

	Latitude	Longitude
BAJO TULUÁ RIVER WATER INTAKE POINT	3.925272°	-76.087950°

Equivalent geographical coordinates are: Latitude: 03 ° 55' 30.98 "N; Longitude: 76 ° 05' 16.62" W.

[1] Given by nameplate of the turbine

[2] In Spanish: *Sistema Interconectado Nacional*

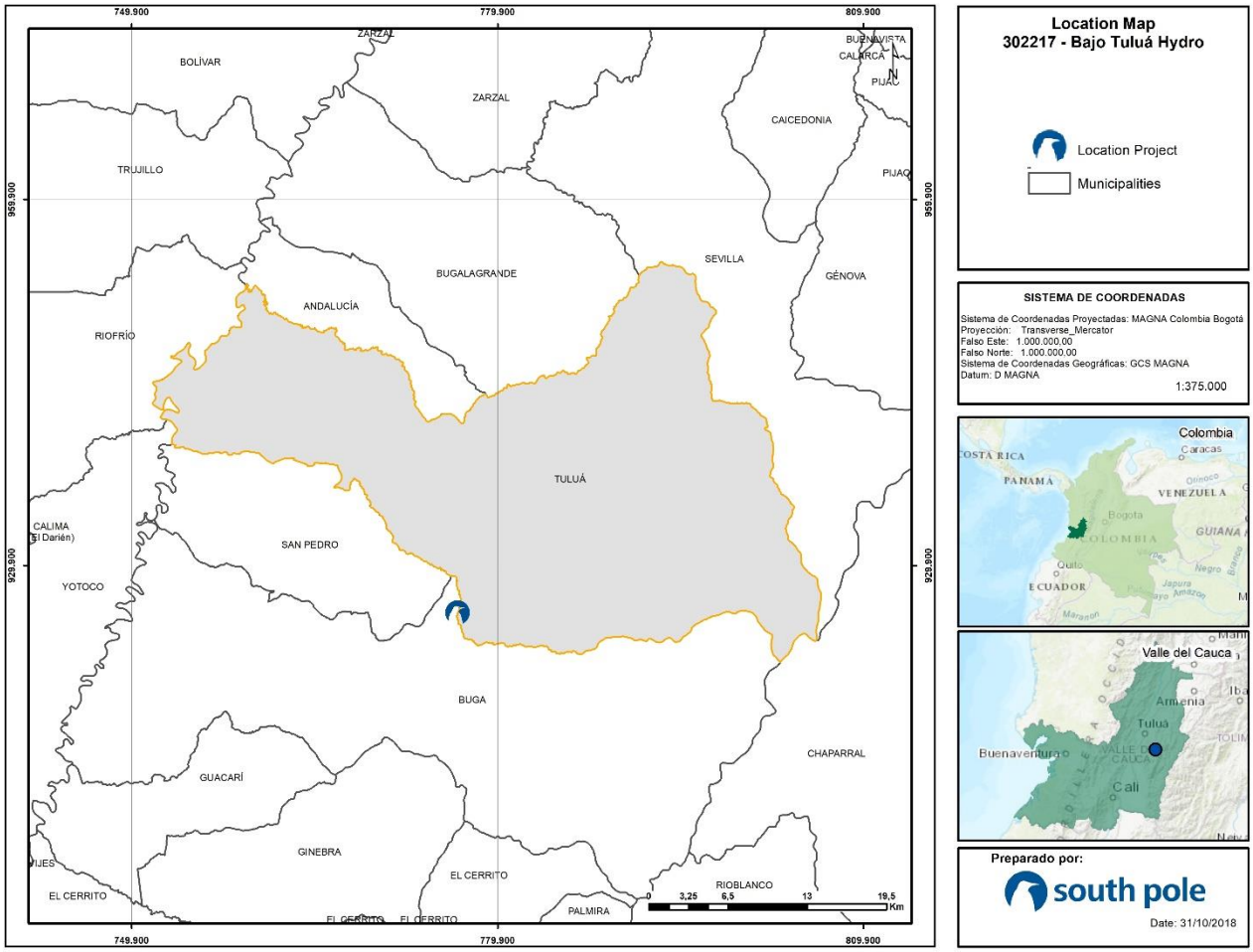

Figure 1: Location of the Bajo Tuluá hydroelectric power plant

A.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Colombia (Host)	EPSA S.A. E.S.P.	No
Spain	Gas Natural SDG S.A.	No

A.4. Reference to applied methodologies and standardized baselines

This project activity was developed in accordance with the consolidated ACM0002 baseline methodology/Version 10: *"Consolidated baseline methodology for grid-connected electricity generation from renewable sources"*.

Other tools used for the baseline and monitoring plan in the PDD are *"Tools to calculate the emission factor for an electric system"* (version 02) and the *"Tool for the demonstration and assessment of additionality"* (Version 05.2).

A.5. Crediting period type and duration

29 Nov 11 - 28 Nov 18 (Renewable)

SECTION B. Implementation of project activity

B.1. Description of implemented project activity

This project collects the waters of the Tuluá River in the point 1,477.7 metres above sea level in the municipality of Buga. With the construction of a small dam that is 50 metres wide in the Tuluá River at this point (1,477.7 metres above sea level), a damming was created and it was allow water collection through a lateral collection point. The lateral collection point has a reception tank that drives water flow to a 110 metres long adduction channel which connects with a triple sedimentation basin. This one has an exit and a delivery channel which gives flow to the conduction tunnel which connects with the load tank. The pipe who feeds the power plant stars in the load tank and it split into two flows to distribute to two Francis turbines. The turbines are hosted in a surface machine house with their respective generators, valves and control panels. The engine house also hosts the connections yard.

The electrical energy distribution line is rated at 34.5 KV and it is connected to the sub-station of Tuluá. The distribution line shares 16 km with the line designed for the Alto Tuluá project, until it arrives to the sub-station of Tuluá. The line walkway usually has parallel paths and therefore it is guaranteed ease of access, construction material's displacements and transport and worker's maintenance and entry. Moreover, the line walkway passes through lands with moderated slopes that make accessibility easier.

A small explanation of each stage and unit mentioned in the previous paragraph is included below:

- **Dam**: it is located in the point 1,477.7 metres above sea level and its function is to generate a small damming that allow the water collection from the river above an established sill (its function is not to store water but to make easier the collection of water).
- **Water collection**: the water intake point or bypass point is a lateral collection point at 1,474.7 metres above sea level. The collection is formed by a grating port that avoids the pass of thick materials that are being transported by the river. Downstream of the grating port there is a reception tank that calms water flow.
- **Desilting canal**: it functions is to establish a fast flow in front of the lateral collection point that allow sweeping all the sediments aggraded in front of it.
- **Ecological flow channel**: it is a structure with a fixed port controlled by a sliding gate that allows guaranteeing the ecological flow. This flow has priority to the flow collected through the water intake point.
- **Calming tank**: it connects through an orifice with the adduction channel.
- **Adduction channel**: it starts in the calming tank and it is 110 metres long until it connects with the sedimentation basin.
- **Sedimentation basin**: it is a triple sand trap. The water generated is collected in a small calming tank from where it starts the conduction tunnel.
- **Conduction tunnel**: horseshoe section with a partially lined tunnel and 5,657 metres in length from the start of the conduction to the load tank or holder.
- **Load tank**: from here starts the pipe which feeds the power plant and it is 560 metres long and has a diameter of 1.80 metres.
- **Engine house**: house of the superficial type that integrates the spaces required to host the two sets of generators with Francis turbines and the connection's yard. The engine house is composed by the following equipment: inlet valve, two Francis turbines with horizontal axis and a throttle, generators, insulated phase bars, generator's switches, potential transformers, auxiliary mechanical equipment, auxiliary electrical equipment and bridge crane. Finally, water is driven into the Tuluá River through a discharge tunnel. The water capacity of each turbine is the same, and is thus equivalent to 50% of the total capacity of 20 MW.
- **Electrical distribution line**: line that enables the connection of the energy generated between the engine house and the sub-station of Tuluá. The distribution line is shared with the one from the hydroelectric power plant of Alto Tuluá. This one starts at the point 1,500 metres above sea level and arrives to the Bajo Tuluá's engine house. From here, both projects share 16 km of distribution line. The line walkway is close to paths which was built inside the project's area of influence and therefore it is guaranteed ease of access,

construction material's displacements and transport and worker's maintenance and entry. Moreover, the line walkway passes through lands with moderated slopes that make accessibility easier.

- **Complementary civil works**: access path to the collection, load tank-Holder, engine house, adaptation of landfills, construction of two bridges (one located in La Esmeralda ravine and one shared with Alto Tuluá project in San Marcos river), rehabilitation of current routes, expansion of energy networks for the construction and personnel facilities for workers.

B.2. Post-registration changes

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

There have not been any temporary deviations from the registered monitoring plan, applied methodologies or standardized baselines during this monitoring period.

B.2.2. Corrections

There have not been any corrections to project information or parameters fixed at the registration or renewal of crediting period of the project activity.

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

There have not been any 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 has not been any post-registration change 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 applied standards or tools

There have not been any permanent changes to the registered monitoring plan, or permanent deviation of monitoring from applied methodologies, applied standardized baseline, or other applied standards or tools.

B.2.6. Changes to project design

There have not been any changes to the project design of the project activity.

SECTION C. Description of monitoring system

The monitoring plan was designed with the purpose of guaranteeing that the project activity is correctly organised from the start, in terms of data gathering and maintenance, as required to obtain realistic GHG emission data.

To obtain the measurements required, the project activity was supervised throughout the crediting period with the measurement systems that provided the official flow, energy and power measures.

The Minor Hydroelectric Power Plant of Bajo Tuluá delivered its energy to the interconnected system in the sub-station of Tuluá, which is where the commercial frontier registered with the Administrator of the electrical interconnected system - XM- established. The information was recorded each day by a measurement unit with a precision of 0.2 and the active energy dispatched the previous day must be reported at 8:00 in the morning.

The energy control department is responsible for the maintenance and supervision of the measurement equipment, which monitor the deviations presented with its verification and energy balancing systems.

The complete revision of the measurement equipment is carried out once a year and the industrial measurement area is in charge of coordinating these processes with the production management area.

To guarantee the ecologic flow in the river section, two measurements are taken: one measures the total flow before its collection and the other one is taken in the bypass channel. The difference between these values gives the natural river flow volume. To guarantee that the ecologic flow is 22% of the total before its collection, the measurements taken on these two points are recorded on a system that is in charge of processing the information and adjusting the gate automatically to guarantee the flows required.

The plant has all equipment required for the instantaneous measurement of the active and apparent power, power levels, current per phase, power factor and energy delivered per turbine generator group, these measurements are local and remote from the EPSA control centre.

The following scheme shows the power plant, the substation and the metering points:

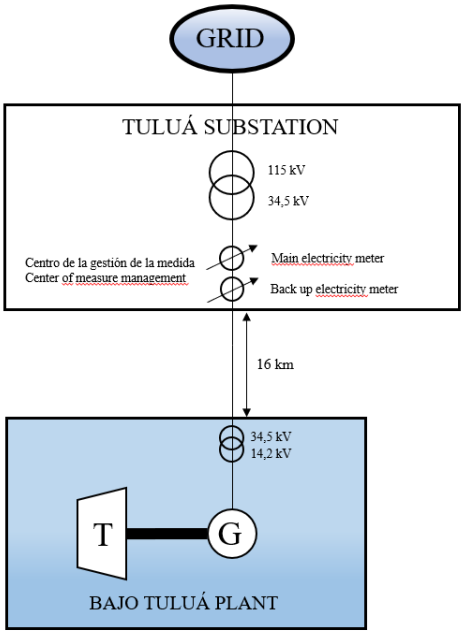

Figure 2: Metering scheme of the Bajo Tuluá hydroelectric power plant

Likewise, the Plant's Operation Reports are used as a reference and be made available for any inspections carried out during the crediting period, including the following aspects:

- Annual electricity production, broken down by month, is part of the Plant Operation Log, with all real and reactive power production data.
- Annual and monthly plant factor.
- Maximum annual and monthly demand.
- Annual and monthly load factor.
- Annual and monthly consumption of turbines.
- Relevant events during the year.

The Project Manager is responsible for the implementation and update of all data and parameters monitored, included in the previous section, ensuring that the emission reduction calculations obtained are realistic and based on evidence. Likewise, said Supervisor is in periodical contact with the person responsible for the execution of the Environmental Handling Plant of the Minor Hydroelectric Power Plant of Alto Tuluá, with the purpose of guaranteeing the execution of the project and that it contributes to the social and environmental development of the Cauca Valley.
In addition, the following data which are necessary to calculate the baseline was downloaded annually from the NEON system:

Quantity of electricity generated by the Minor Hydroelectric Power Plant of Alto Tuluá each hour. The measurement data registered by the personnel of EPSA was compared with the data provided by the NEON system to detect possible error.
Annual electricity generated by each plant of the National Interconnected System of Colombia.
Electricity generated by the National Interconnected System of Colombian hourly.
New plants built and those commissioned in the National Interconnected System of Colombia, in order to update the list of the plants that can be included in the calculation of the build margin emission factor. This data was downloaded from the NEON system if the Electricity Market Regulator does not provide such information.

Annually, it was also updated the calculation of:

- Annual electricity generated by low-cost/must-run power plants and the rest of the power plants.
- Fuel consumption of each power unit.
- Emission factor of each plant.
- Operating margin emission factor.
- Build margin emission factor.
- Baseline emission factor.

All data and parameters were recorded in accordance with the quality systems of the companies participating in the project, with their corresponding quality control and assurance procedures, Likewise, there is a record of the Power Plant Operation reports, in accordance with these procedures.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante

Data/Parameter	$EF_{CO2,m,i,y}$
Unit	kg CO_2/TJ
Description	CO2 emission factor of fossil fuel type i used in power unit *m* in year y
Source of data	Table 1.4 on page 1.23 of the document "2006 IPPC Guidelines for National Greenhouse Gas Inventories". Chapter 1, Volume 2, taking the lowest value for a confidence level of 95%
Value(s) applied	See annex 3 PDD
Choice of data or measurement methods and procedures	Document "Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual" does not provide specific emission factors per thermal energy unit for Colombia, so that the general values stated in Volume

	2 of the "2006 IPPC Guidelines for National Greenhouse Gas Inventories" have been used
Purpose of data/parameter	Baseline
Additional comments	-

Data/Parameter	Installed capacity of the Hydroelectric Power Plant of Alto Tuluá
Unit	MW
Description	-
Source of data	EPSA S.A. E.S.P.
Value(s) applied	20
Choice of data or measurement methods and procedures	-
Purpose of data/parameter	Baseline
Additional comments	-

Data/Parameter	EG_m, y, EG_k
Unit	kWh
Description	Net electricity generated and supplied to the National Interconnected System of Colombia by plant m or k during the year y.
Source of data	NEON system
Value(s) applied	The data obtained from the NEON system and corresponding to the year 2007 have been applied. It has conducted the annual amount of generation from all low-cost/must-run plants and the other plants, obtaining a value of: • low-cost/must-run (kWh) 44,340,373,748.6 • Thermal (kWh) 9,325,288,821.6
Choice of data or measurement methods and procedures	The hourly data of the total generation of the system and the hourly data corresponding to each plant was downloaded. The sum of all individual data was checked, in order to ensure that it is similar to the total system generation data. In case there are differences between the two types of data, the reasons and sources were analysed, and errors was corrected.
Purpose of data/parameter	Project emission
Additional comments	-

Data/Parameter	$\eta_{m,y,}$
Unit	%
Description	Average net energy conversion efficiency of power unit m in year y. Heat ratem, y is the inverse of the efficiency of the power unit m (GJ/MWh).
Source of data	Associated Services Management, XM Compañía de Expertos en Mercados S.A. E.S.P.
Value(s) applied	See annex 3 PDD
Choice of data or measurement methods and procedures	The unit of the data provided by the "Dirección Servicios Asociados, XM Compñía de Expertos en Mercados S.A. E.S.P." concerning the heat rate of each power plants is MBTU / MWh. Through a change of units, according to the conversions indicated in the spreadsheet for calculating the operating margin emission factor (first sheet, FE power station), whose detailed explanation is found in Annex 4 of this document, the average efficiency of each of central of the Colombian Interconnected System is obtained. For cogeneration using coal, fuel and gas it has been taken respectively the average value of all Colombian centrals that use such fuels.
Purpose of data/parameter	Baseline

Additional comments	-

D.2. Data and parameters monitored

Data/Parameter	$EG_{facility, y}$
Unit	kWh/yr
Description	Quantity of net electricity generation supplied by the project plant to the grid in the year y.
Measured/calculated/ default	-
Source of data	Project activity site. It was measured by EPSA,
Value(s) of monitored parameter	114,400,000 kWh/ year.
Monitoring equipment	Meters
Measuring/reading/recording frequency	The quantity of energy generated was monitored by EPSA each hour. The data obtained was recorded once a month on a spreadsheet. In addition, the data was also be provided by the NEON system, which was downloaded annually and recorded on a different spreadsheet
Calculation method (if applicable)	-
QA/QC procedures	Cross check measurement results with records for sold electricity: the measurement units of the energy transferred from the plant to the network was calibrated periodically in accordance with the standards established by the national authorities or at least every 3 years. The measurement data registered by the personnel of EPSA was compared with the data provided by the NEON system to detect possible error. There is the procedure PR.PRO.03.0001, “Procedure for control of the production equipment”, to carry out the calibration and verification (internal and external) of measuring equipment.
Purpose of data/parameter	Project emission
Additional comments	-

Data/Parameter	$EG_{m,}$ y, $EG_{k, y}$
Unit	kWh
Description	Net electricity generated and supplied to the National Interconnected System of Colombia by plant m or k during the year y.
Measured/calculated/ default	-
Source of data	NEON system
Value(s) of monitored parameter	See annex (xlsx)
Monitoring equipment	-
Measuring/reading/recording frequency	-
Calculation method (if applicable)	The quantity of energy generated by the power plants during the year is registered in the NEON System as "Real Generation". This system was accessed once a year to download data, which was stored in an electronic spreadsheet. It should take into account each year adding new power plants and their typology.
QA/QC procedures	The hourly data of the total generation of the system and the hourly data corresponding to each plant was downloaded. The sum of all individual data was checked, in order to ensure that it is similar to the total system generation data. In case there are differences between the two types of data, the reasons and sources were analysed and errors was corrected
Purpose of data/parameter	Baseline

Additional comments	-

Data/Parameter	$EG_{grid, y}$
Unit	kWh
Description	Net electricity generated and supplied to the National Interconnected System of Colombia by all power sources. See annex (xlsx)
Measured/calculated/ default	-
Source of data	NEON system
Value(s) of monitored parameter	The data obtained from the NEON system and corresponding to each hour of the year 2012 to 2017 have been applied.
Monitoring equipment	-
Measuring/reading/recording frequency	-
Calculation method (if applicable)	The quantity of energy generated by the System is registered in the NEON System as "Real Generation". This system was accessed once a year to download data, which was stored in an electronic spreadsheet
QA/QC procedures	-
Purpose of data/parameter	-
Additional comments	-

D.3. Implementation of sampling plan

N/A

SECTION E. Calculation of emission reductions or net anthropogenic removals

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

The hydroelectric power plant project of Bajo Tuluá is based on the construction of a new plant that was integrated in the National Interconnected System of Colombia. The system is composed of a combination of power plants that consume fossil fuels and plants that use renewable energy sources.

The baseline emissions are calculated by applying the combined margin grid emissions factor with the *"Tool to calculate the emission factor for an electricity system"*.

The operating margin emission factor for this project activity is calculated ex-post, i.e. it is monitored and recalculated every year during this first crediting period.

The procedure followed for the calculation of the operating margin (OM) includes the following stages:

The selected option from the *"Tool to calculate the emission factor for an electricity system"* for calculating the emission factor of each plant is based on the fuel consumption (option A1) of the different plant of the Colombian Interconnected System, with the following expression:

$$EF_{EL,m,y} = \frac{\sum_i FC_{i,m,y} \times NCV_{i,y} \times EF_{CO2,y,i}}{EG_{m,y}} \quad \textbf{[Equation 1]}$$

Where:

- $EF_{EL,m,y}$ is the emission factor of plant m in year y in tCO2/MWh.
- $FC_{i,m,y}$ is the Amount of fuel type *i* consumed by power unit *m* in year *y* (Mass or volume unit)
- $NVC_{i,y}$ is the Net calorific value (energy content) of fuel type *i* in year *y* (GJ/mass or volume unit)
- $EF_{CO2,i,y}$ is the CO2 emission factor of fuel type *i* in year y (t CO2/GJ)
- $EG_{m,y}$ is the Net quantity of electricity generated and delivered to the grid by power unit *m* in year *y* (MWh)
- *m* = All power units serving the grid in year y except low-cost/must-run power units
- *i* = All fuel types combusted in power unit *m* in year *y*
- *y* = The relevant year as per the data vintage chosen

Value λ_y must be calculated before the calculation of the operating margin emission factor, using the following expression:

$$\lambda_y(\%) = \frac{\text{Nº hours low} - \text{cost/must} - \text{run sources are on the margin during the year y}}{8760\ hours..per..year} \qquad \textbf{[Equation 2]}$$

The steps required to calculate λ_y are:

- Step i: The total hourly generation data of the year are presented, from high to low, in comparison to the total 8,760 hours of the year.
- Step ii: Calculate the total annual generation of low-cost/must-run plants ($\sum_k EG_{k,y}$).
- Step iii: Draw a horizontal line that crosses the line represented, so that the area under the curve represents the total generation of low-cost/must-run plants ($\sum_k EG_{k,y}$).
- Step iv: Determine value λ_y, taking into account that λ_y is calculated as X/8,760, where X represents the hours on the right of the point of intersection.

The next step involves the calculation of the quantity of carbon dioxide emissions produced by energy unit generated by the system. The said emission factor ($EF_{DD,h}$) is obtained with the Simple Adjusted OM method in the following expression:

$$EF_{grid,OM-adj,y} = (1 - \lambda_y) \times \frac{\sum_m EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}} + \lambda_y \times \frac{\sum_k EG_{k,y} \times EF_{EL,k,y}}{\sum_k EG_{k,y}} \qquad \textbf{[Equation 3]}$$

Where:

- $EF_{grid,OM-adj,y}$ is the annual operating margin emission factor, and
- $EG_{m,y}$, $EG_{k,y}$ is the net electricity generated and supplied to the grid by plant m or k during the year and in MWh, where k are plants low-cost/must-run and m the others one.
- $EF_{EL,m,y}$, $EF_{EL,k}$, y is the emission factor of plant m or k, during year y and in t CO2/MWh. It is calculated with equation No. 1.

In the case of the build margin emission factor, it has been chosen “option 2” from the selected tool. Therefore, it must be updated annually with an ex-post approach during the first crediting period, while the factor is calculated with an ex-ante approach during the following crediting periods.

Once the option of the number of plants to use for each year is selected, the build margin emission factor was calculated with the following equation:

$$EF_{grid,BM,y} = \frac{\sum_{i,m} EG_{m,y} \times EF_{EL,m,y}}{\sum_{m} EG_{m,y}}$$ **[Equation 4]**

Where:

- $EF_{EL,m,y}$ is the emission factor of plant m in kgCO2/MWh fuel i, of the set of plants selected for the calculation of the build margin emission factor and it is obtained from equation 1
- $EG_{m,y}$ is the quantity of energy generated by plant m in year y, this calculation uses the annual plant generation information, provided by the CND through the NEON system

The baseline emission factor (EF_y) is obtained with the combination of the operating and build margin emission factors:

$$EF_{grid,CM,y} = w_{OM} \times EF_{grid,OM,y} + w_{BM} \times EF_{grid,BM,y}$$ **[Equation 5]**

Where:

- $EF_{grid,CM,y}$ is the baseline emission factor during year y
- w_{OM} is the weight of the operating margin emission factor, A value of 0.5 has been taken. For the second and third crediting period this factor has a value of 0.25.
- $EF_{grid,OM,y}$ is obtained in Equation 3
- w_{BM} is the weight of the build margin emission factor. A value of 0.5 has been taken. For the second and third crediting period this factor has a value of 0.75.
- $EF_{grid,BM,y}$ is obtained in Equation 4

Baseline emissions include only CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The baseline emissions are to be calculated as follows:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$ **[Equation 6]**

Where:

- BE_y Baseline emissions in year y (t CO2/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)
- $EF_{grid,M,y}$ Combined margin CO2 emission factor for grid connected power generation in year y calculated in Equation 6 (t CO2/MWh).

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

There are no forecasted project emissions related to the generation of energy based on renewable sources (PE=0)

E.3. Calculation of leakage emissions

The emissions caused by leakages are very low (L_y =0), since the plant do not have a water reservoir, so that they should not be calculated.

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	Total amount
Total	75,389	0	0	0	75,389	75,389

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 (t CO_2e)
75,389	138,100

E.6. Remarks on increase in achieved emission reductions

There is no increase in emissions achieved.

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Document information

Version	*Date*	*Description*
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.

Version	*Date*	*Description*
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).
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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