



Monitoring report form for CDM project activity
(Version 07.0)

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

MONITORING REPORT

Title of the project activity	Oaxaca IV Wind Energy Project	
UNFCCC reference number of the project activity	6216	
Version number of the PDD applicable to this monitoring report	02	
Version number of this monitoring report	01	
Completion date of this monitoring report	14/04/2020	
Monitoring period number	Third monitoring report	
Duration of this monitoring period	01/08/2017 – 30/11/2019	
Monitoring report number for this monitoring period	Not applicable	
Project participants	CE Oaxaca Cuatro S. de R.L. de C.V. Acciona Green Energy Development S.L.	
Host Party	Mexico	
Applied methodologies and standardized baselines	ACM0002 version 12.1.0 – Consolidated 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
	0	536,523
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	571,254	

SECTION A. Description of project activity

A.1. General description of project activity

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The objective of the project activity is to generate renewable energy from the wind. The renewable energy is provided to the Mexican grid system and therefore results in the greenhouse gas (GHG) emissions reduction because in the absence of the project activity the power would have been generated by the Mexican grid system which depends mainly upon fossil fuels usage.

The Oaxaca IV Wind Energy Project has a capacity of 102 MW, comprising 68 turbines generators, each with a capacity of 1.5 MW. The project was expected to generate approximately 422,076 MWh per year. This electricity is sold to the CFE.

- Brief description of the installed technology and equipment

Item	Oaxaca IV Wind Energy Project
Unit	Acciona
Model	AW-1500
Individual capacity (MW)	1.5 MW
Number of turbines	68
Total Capacity	102 MW

A fixed crediting period of 10 years has been selected for the project, which lasts from May 16, 2012 to May 15, 2022.

The project has been registered with UNFCCC as a CDM project activity under article 12 of the Kyoto Protocol. Submission of monitoring report and subsequent verification has been required mandatory by UNFCCC for issuance of Certified Emission Reductions (CERs) credits.

The monitoring period covered under the report is extending from *August 1st 2017 to November 30th 2019*, including both days.

At the end of the verification period **924,245 MWh** of electricity were produced and sent to the grid. Therefore, the total amount of reduced emissions is **536,523 tCO₂e**.

A.2. Location of project activity

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The project is located in La Venta Municipality, windy region, in the Isthmus of Tehuantepec, state of Oaxaca, Mexico.

The project activity coordinates are 16°36'36.21" N and 94°47'23.98" W (decimal coordinates: 16.61005925 latitude and -94.78999567 longitude).

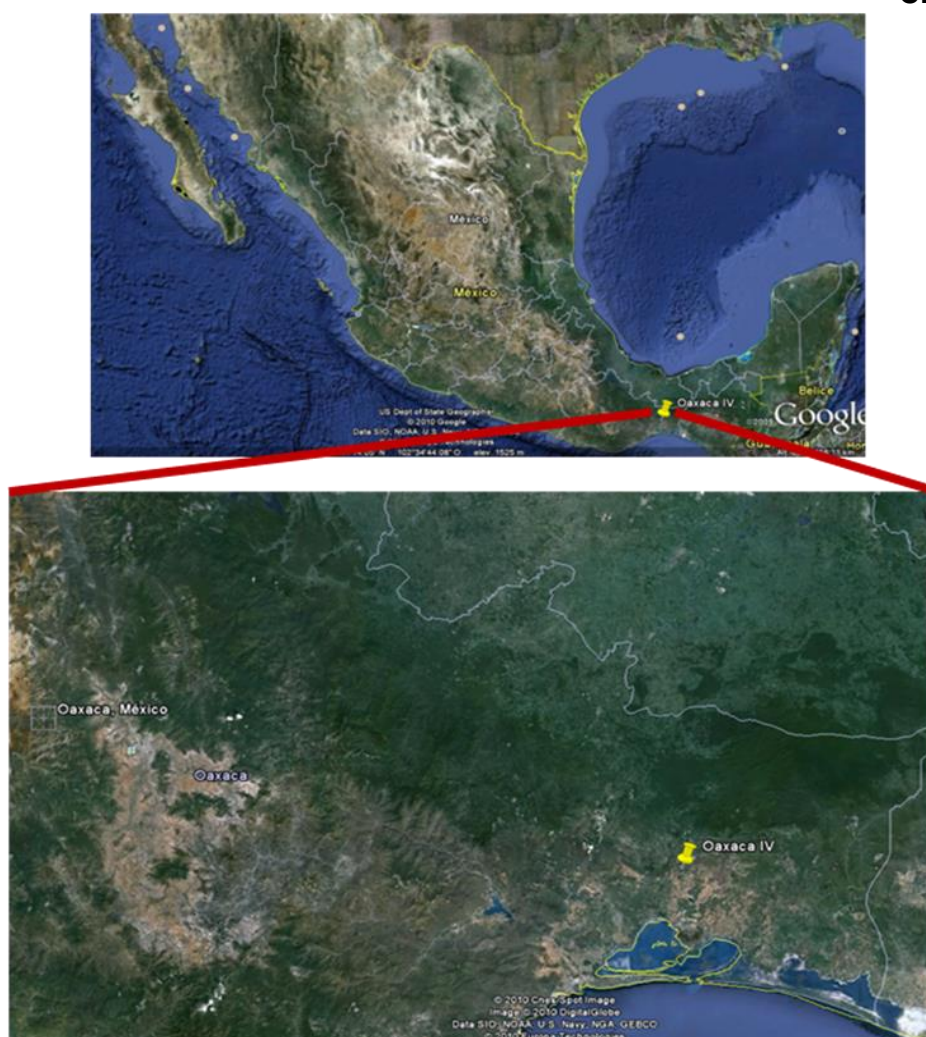


Figure 1. Localization of the project activity.

A.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Mexico (host Party) Spain	CE Oaxaca Cuatro S. de R.L. de C.V. (Private entity) Acciona Green Energy Development S.L. (Private entity)	No

A.4. References to applied methodologies and standardized baselines

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For this project, the baseline and monitoring methodology applied is the following: Consolidated methodology for grid-connected electricity generation from renewable sources (ACM0002 ver. 12.1.0).

This methodology also refers to the approved versions of the following tools

- Tool to calculate the emission factor for an electricity system (ver 0.02.2.1)
- Tool for the demonstration and assessment of additionality (ver. 05.2)
- Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion (ver.02)

A.5. Crediting period type and duration

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A fixed crediting period of 10 years has been selected for the project. The project activity crediting period covers from 16/05/2012 to 15/05/2022, including both days.

SECTION B. Implementation of project activity**B.1. Description of implemented project activity**

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The project start date is the date when CE Oaxaca Cuatro S. de R.L. de C.V. won the CFE tender by the award of contract. This was on March, 8th 2010.

The operation of the 102 MW started on 05/03/2012 and the project activity is expected to have a minimum lifetime of 20 years from starting date; this is, until the year 2032.

The general characteristics of the project activity are resumed in the next table:

Total Power	102 MW
Rated Power per turbine	1.5 MW
Cut in-cut-out wind	4 / 25 m/s
No. of turbines	68
Equivalent annual operating hours	4,138
Annual Production	422,076 MWh
Capacity factor	47.24%
Transmission line length	32.25 km
Transmission line Voltage	230 kV

Table 1. Power plant characteristics

AW – 1500 is a wind turbine fabricated by Acciona, a company with 20 years' experience of leadership in the sector, with 8,913 MW of renewable installed capacity, of which more than 7,000 MW installed correspond to wind power.

The AW-1500 is a 1500 kW power-rated horizontal shaft wind turbine, with three blades, variable speed, 12 kV rated voltage and frequency of 60 Hz.; Certified by Germanischer Lloyd (GL) for a wide range of wind types. The turbine is cover made of fiberglass-reinforced polyester that protect of weather inclemency.

The wind turbine has a control software for monitoring and automatically managing the operation. A double-fed asynchronous generator of IGBT's (PMW) improves voltage and frequency stability, supplies reactive power to the grid when required and operates the power factor in inductive or capacitive power as required.

The line to be connected to the Federal Electricity Commission ("Comisión Federal de Electricidad", CFE) transformer will be a 230 kV and 32.25 km long line, running from the wind farm control house to the CFE transformer located in the Ixtepec substation.

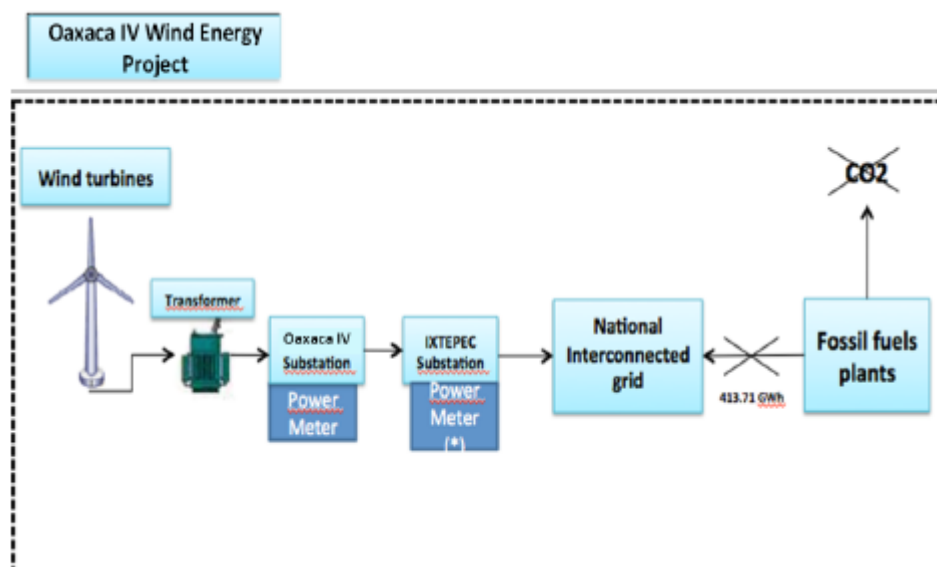


Figure 2. Project Boundary

Relevant dates for the project activity

Date	Event
08/03/2010	Date when CE Oaxaca Cuatro S. de R.L. de C.V. won the CFE tender by the award of contract.
08/04/2012	Date when CE Oaxaca Cuatro S. de R.L. de C.V. signed the PPA with CFE.
13/05/2010	Date when the Regulatory Energy Commission (CRE) gave the Independent Production permit.
15/07/2010	Start of the construction of Oaxaca IV Wind Energy Project.
05/03/2012	Commissioning date of the project activity Oaxaca IV Wind Energy Project.
15/05/2012	CDM Registration date of the project activity.

Events or situations which may impact on the applicability of the methodology

To date it has not happened any situation or event that affects or impacts the applicability of the methodology.

B.2. Post-registration changes

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

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N/A

B.2.2. Corrections

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N/A

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

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N/A

B.2.4. Inclusion of monitoring plan

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N/A

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

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N/A

B.2.6. Changes to project design

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N/A

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

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N/A

SECTION C. Description of monitoring system

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The monitoring consists mainly in using a power meters equipment to record the energy generated by the wind farm. All relevant data is collected continuously and stored during the whole crediting period.

The monitoring of the power generation from the project is done through monthly invoices which are sent at the beginning of each month by CFE. This data registers the energy generated by the project activity that is measured from the power meter located in the wind farm.

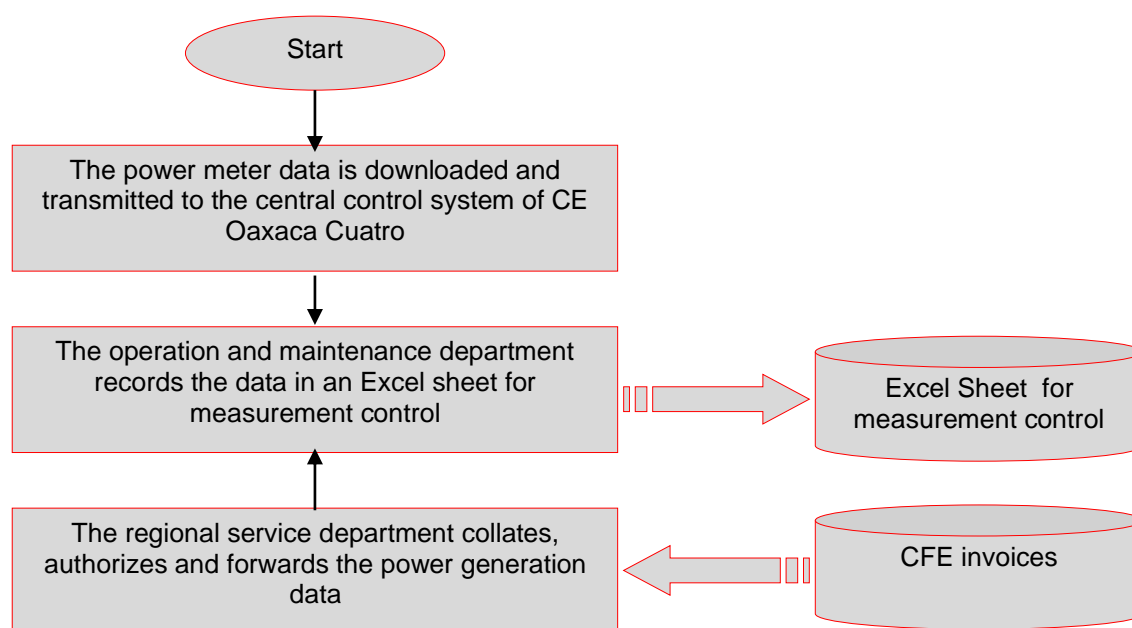


Figure 3. *Diagram of Generated Electricity Monitoring System*

Oaxaca IV Wind Farm shares the transmission line with Oaxaca II Wind Energy Project (also registered as a CDM project- ref: 5894). The next figure shows the interconnection system and the measuring points of energy.

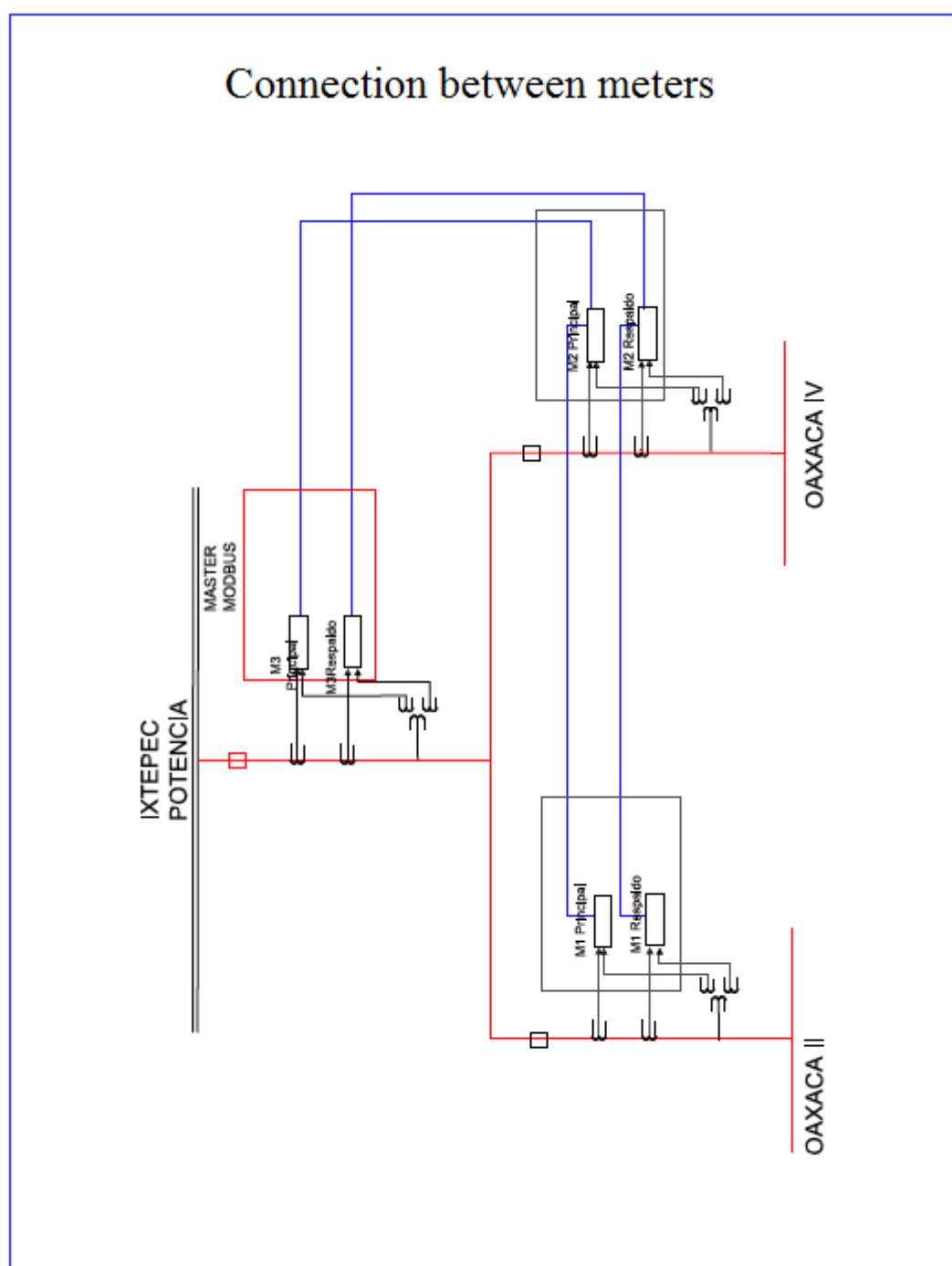


Figure 4. *Interconnection and Measuring Point*

According to the PDD registered, the net electricity of both wind farms will be measured in the Ixtepec Potencia Substation and at the exit of each wind farm the gross energy will be measured. The net electricity of Oaxaca IV Wind Farm will be calculated using the following formula

$$EG_{facility,y} = \left(\frac{EG_{project,y}}{EG_{project,y} + EG_{another,y}} * EG_{output,y} \right) - EG_{import,y}$$

Where:

$EG_{facility,y}$ = Net electricity supplied by the proposed project in the year y.
 $EG_{output,y}$ = Total electricity supplied to the grid by the proposed project and 'another project B' in the year y.

$EG_{import,y}$ = Total electricity imported from the grid by the proposed project and 'another project B' in the year y
 $EG_{project,y}$ = Electricity measured by meters installed at the Oaxaca IV substation.
 $EG_{another,y}$ = Electricity measured by meters installed at the 'other project B' substation that share transmission facilities with the proposed project.

The meters used for each variable are:

$EG_{facility,y}$: This correspond to the net electricity generated by Oaxaca IV Wind Energy Project as was described the variable is calculated at depends of the other data.

$EG_{output,y}$: Measured at Ixtepec Potencia Substation the meters used are: Main meter (MT-1011A383-01) and backup meter (MT-1011A456-01)

$EG_{import,y}$: Measured at Ixtepec Potencia Substation the meters used are: Main meter (MT-1011A383-01) and backup meter (MT-1011A456-01)

$EG_{project,y}$: Measured at Oaxaca IV Substation the meters used are: Main meter (MT-1011A462-01) and backup meter (MT-1011A388-01)

$EG_{another,y}$ = Measured at Oaxaca II Substation the meters used are: Main meter (MT-1011A453-01) and backup meter (MT-1011A560-01)

The information related to the power meters equipment calibration is included in the following table:

Calibration Certificate

Equipment code	Equipment	Calibration Entity ¹	Calibration Certificates	Calibration Frequency	Calibration Dates
MT-1011A383-01	Main power meter Ixtepec Potencia Substation	LAPEM	20171332	Yearly	28/06/2017
			20181549	Yearly	13/06/2018
			20191294	Yearly	29/05/2019
MT-1011A456-01	Backup power meter Ixtepec Potencia Substation	LAPEM	20171333	Yearly	28/06/2017
			20181550	Yearly	13/06/2018
			2019195	Yearly	29/05/2019
MT-1011A453-01	Main power meter Oaxaca II Substation	LAPEM	20171351	Yearly	29/06/2017
			20181552	Yearly	14/06/2018
			20191288	Yearly	30/05/2019

¹ CFE hired the Company LAPEM (Laboratorio de Pruebas de Equipos y Materiales); all the calibration certificates are delivered to the DOE.

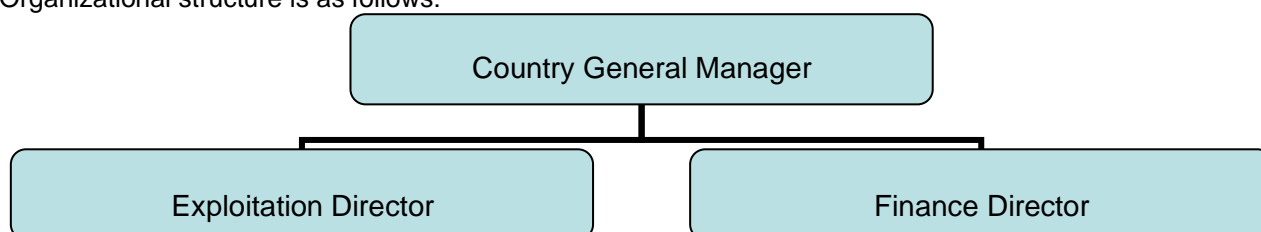
MT-1011A560-01	Backup power meter Oaxaca II Substation	LAPEM	20171353	Yearly	29/06/2017
			20181554	Yearly	14/06/2018
			20191289	Yearly	30/05/2019
MT-1011A462-01	Main power meter Oaxaca IV Substation	LAPEM	20171352	Yearly	30/06/2017
			20181553	Yearly	15/06/2018
			20191292	Yearly	31/05/2019
MT-1011A388-01	Backup power meter Oaxaca IV Substation	LAPEM	20171350	Yearly	30/06/2017
			20181551	Yearly	15/06/2018
			20191290	Yearly	31/05/2019

The information is transmitted every 5 minutes to CFE central units.

In case the main meter(s) is found to be operating outside the permissible limits, the main meter will be either replaced or calibrated immediately. Whenever a main meter goes defective, the consumption recorded by the backup meter will be referred.

a) Roles and Responsibilities:

Organizational structure is as follows:



Responsible	Responsibility and competences
Country General Manager	Responsible for overseeing the CDM process
Exploitation Director	Responsible for monitoring, recording, reporting and archiving measured data. Responsible for checking data with the receipt of sales. Responsible for corrective and preventive actions
Finance Director	Responsible for performing the emission reduction calculations based on methodology and preparing the Monitoring Report as appropriate. Responsible for internal audit

Measuring and cross-check procedure.

Measuring. The person(s) responsible obtains the electricity generation information from the meters installed in the Ixtepec substation, Oaxaca II and Oaxaca IV substation on a monthly basis, and reports them in the spreadsheet designed for measurement control and stores the data electronically.

Calculation of energy generation to be monitored. Oaxaca IV Wind Energy Project needs the measures of several point in order to calculate the net electricity generation of the project, therefore the project activity has: two certified meters (1 main, 1 backup) in Ixtepec Substation two certificate meters in Oaxaca II substation (1 main, 1 backup) and two certificate meters in Oaxaca IV substation (1 main, 1 backup); all meters are property of CFE.

Cross-check of net electricity supplied to the grid with receipt of sales: Net electricity supplied to the grid measured and calculated at the substation is cross-checked with receipts of sales.

If there is a mismatch, the person(s) responsible will solve it with CFE, explaining the discrepancy detected the origin of deviations and the corrective actions taken and file the evidence.

Quality control (QC) procedures and quality assurance procedures (QA).

1. Monitoring equipment

- a) Monitoring equipment is set up as per Mexican law and/or PPA.
- b) Monitoring equipment is authorized through a certified formal process.
- c) After set up monitoring equipment is calibrated by CFE periodically as determined by the Mexican Law and/or the PPA, and checked as necessary by CFE for accuracy.

2. Corrective and preventive actions are followed and properly documented.

Five minutes readings reported each month for main and check meters are stored in Excel sheets. Corrective and preventive actions have been made as per provision in CDM manual. Internal audit will be done periodically as decided by management.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante

(Copy this table for each data or parameter.)

Data/Parameter	EF_{grid,CM,y}
Unit	tCO ₂ /MWh
Description	Baseline Emission factor of the Mexican Grid (calculated ex-ante)
Source of data	Registered PDD
Value(s) applied	0.5805 tCO ₂ /MWh
Choice of data or measurement methods and procedures	The data is used for Baseline emission calculations. The value was calculated as per the "Tool to calculate the emission factor for an electricity system ver.02.2.1"
Purpose of data/parameter	Calculation Baseline Emissions
Additional comments	NA

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 to the grid in year y
Measured/calculated/default	Calculated
Source of data	Calculated according to measured parameters (EG _{output,y} EG _{import,y} EG _{project,y} and EG _{another,y})
Value(s) of monitored parameter	924,245 MWh
Monitoring equipment	<p>Main power meter and Backup power meter in Ixtepec Potencial Substation Type: Bidirectional Accuracy class: 0.2% Basic Serial number: MT-1011A383-01/ MT-1011A456-01 Calibration frequency: Annually Calibration dates: 28 June 2017, 13 June 2018 and 29 May 2019 Validity: 29 May 2020</p> <p>Main power meter and Backup power meter in Oaxaca II Substation Type: Bidirectional Accuracy class: 0.2% Basic Serial number: MT-1011A453-01/ MT-1011A560-01 Calibration frequency: Annually Calibration dates: 29 June 2017, 14 June 2018 and 30 May 2019 Validity: 30 May 2020</p> <p>Main power meter and Backup power meter in Oaxaca IV Substation Type: Bidirectional Accuracy class: 0.2% Basic Serial number: MT-1011A462-01/ MT-1011A388-01 Calibration frequency: Annually Calibration dates: 30 June 2017, 15 June 2018 and 31 May 2019 Validity: 31 May 2020</p>
Measuring/reading/recording frequency	Measurement equipment: Power meters Measuring: Continuous, with report every 5 minutes Recording: Monthly

Calculation method (if applicable)	<p>Calculated from energy exported by the project to the grid and energy imported by the project from the grid, directly obtained from the metering equipment installed in the Ixtepec substation.</p> <p>Oaxaca IV Wind Farm has two meters (1 main, 1 backup) at the exit of the wind farm and two meters (1 main, 1 backup) in Ixtepec Substation. The project activity shares the transmission line to Ixtepec Substation with Oaxaca II wind project. The energy production from the project activity is determined by CFE by means of CFE certified meters located in the Ixtepec Substation.</p> <p>The metering is cross-checked with the invoice of sales. The net electricity generation is measured in the meter installed at the delivery point of energy. As was mentioned before this project activity shares the transmission line with another project; for this reason the meter in the substation uses a software that calculates the net electricity exported to the grid by the project activity:</p> $EG_{facility,y} = \left(\frac{EG_{project,y}}{EG_{project,y} + EG_{another,y}} * EG_{output,y} \right) - EG_{import,y}$ <p>$EG_{output,y}$ $EG_{import,y}$ $EG_{project,y}$ and $EG_{another,y}$ are measured directly by electricity meters.</p>
QA/QC procedures	This data is directly used for calculation of emissions reduction. The metering equipment is properly calibrated and checked periodically for accuracy, to ensure that any error resulting from such equipment does not exceed +0.2% of full-scale rating. To guarantee QA/QC it is double checked by receipt of electricity sales.
Purpose of data/parameter	Calculation Baseline Emissions
Additional comments	As a conservative approach for the calculation of this variable, the PP uses the minimum value for $EG_{project,y}$ from the meter readings and the invoice and the maximum value for $EG_{another,y}$ from the meter readings and the invoice.

Data/Parameter	EG_{output,y}
Unit	MWh/yr
Description	Electricity supplied to the grid by the proposed project and 'another project B' during year y
Measured/calculated/default	Measured
Source of data	Electricity meters located in Ixtepec Substation this meter has the serial number MT-1011A383-01 (Main Meter) and MT-1011A456-01 (Backup meter)
Value(s) of monitored parameter	1,752,741 MWh
Monitoring equipment	<p>Main power meter and Backup power meter in Ixtepec Potencial Substation</p> <p>Type: Bidirectional</p> <p>Accuracy class: 0.2% Basic</p> <p>Serial number: MT-1011A383-01/ MT-1011A456-01</p> <p>Calibration frequency: Annually</p> <p>Calibration dates: 28 June 2017, 13 June 2018 and 29 May 2019</p> <p>Validity: 29 May 2020</p>
Measuring/reading/recording frequency	<p>Measurement equipment: Power meters</p> <p>Measuring: Continuous, with report every 5 minutes</p> <p>Recording: Monthly</p>
Calculation method (if applicable)	NA

QA/QC procedures	This data is directly used for calculation of emissions reduction. The metering equipment is properly calibrated and checked periodically for accuracy, to ensure that any error resulting from such equipment does not exceed +0.2% of full-scale rating. To guarantee QA/QC it is double checked by receipt of electricity sales.
Purpose of data/parameter	Calculation Baseline Emissions
Additional comments	The data is archived electronically. Archived data will be kept during the crediting period and two years later.

Data/Parameter	EG_{import,y}
Unit	MWh/yr
Description	Electricity purchased from the grid by the proposed project and 'another project B' during year y
Measured/calculated/default	Measured
Source of data	Electricity meters located in Ixtepec Substation this meter has the serial number MT-1011A383-01 (Main Meter) and MT-1011A456-01 (Backup meter)
Value(s) of monitored parameter	3,899 MWh
Monitoring equipment	Main power meter and Backup power meter in Ixtepec Potencial Substation Type: Bidirectional Accuracy class: 0.2% Basic Serial number: MT-1011A383-01/ MT-1011A456-01 Calibration frequency: Annually Calibration dates: 28 June 2017, 13 June 2018 and 29 May 2019 Validity: 29 May 2020
Measuring/reading/recording frequency	Measurement equipment: Power meters Measuring: Continuous, with report every 5 minutes Recording: Monthly
Calculation method (if applicable)	NA
QA/QC procedures	This data is directly used for calculation of emissions reduction. The metering equipment is properly calibrated and checked periodically for accuracy, to ensure that any error resulting from such equipment does not exceed +0.2% of full-scale rating.
Purpose of data/parameter	Calculation Baseline Emissions
Additional comments	The data is archived electronically. Archived data will be kept during the crediting period and two years later. In order to be conservative EG_{import,y} is fully deducted including the electricity imported from the grid by 'another project B'

Data/Parameter	EG_{project,y}
Unit	MWh/yr
Description	Electricity measured by meters installed at the project site Oaxaca IV substation
Measured/calculated/default	Measured
Source of data	Electricity meters located in Oaxaca IV Substation this meter has the serial number MT-1011A462-01 (Main Meter) and MT-1011A388-01 (Backup meter)
Value(s) of monitored parameter	928,143 MWh

Monitoring equipment	Main power meter and Backup power meter in Oaxaca IV Substation Type: Bidirectional Accuracy class: 0.2% Basic Serial number: MT-1011A462-01/ MT-1011A388-01 Calibration frequency: Annually Calibration dates: 30 June 2017, 15 June 2018 and 31 May 2019 Validity: 31 May 2020
Measuring/reading/recording frequency	Measurement equipment: Power meters Measuring: Continuous, with report every 5 minutes Recording: Monthly
Calculation method (if applicable)	NA
QA/QC procedures	This data is directly used for calculation of emissions reduction. The metering equipment is properly calibrated and checked periodically for accuracy, to ensure that any error resulting from such equipment does not exceed +0.2% of full-scale rating. To guarantee QA/QC it is double checked by receipt of electricity sales.
Purpose of data/parameter	Calculation Baseline Emissions
Additional comments	The data is archived electronically. Archived data will be kept during the crediting period and two years later.

Data/Parameter	EG_{another,y}
Unit	MWh/yr
Description	Electricity measured by meters installed at 'another project B' project site substation
Measured/calculated/default	Measured
Source of data	Electricity meters located in Oaxaca II Substation this meter has the serial number MT-1011A453-01 (Main Meter) and MT-1011A560-01 (Backup meter)
Value(s) of monitored parameter	824,597 MWh
Monitoring equipment	Main power meter and Backup power meter in Oaxaca II Substation Type: Bidirectional Accuracy class: 0.2% Basic Serial number: MT-1011A453-01/ MT-1011A560-01 Calibration frequency: Annually Calibration dates: 29 June 2017, 14 June 2018 and 30 May 2019 Validity: 30 May 2020
Measuring/reading/recording frequency	Measurement equipment: Power meters Measuring: Continuous, with report every 5 minutes Recording: Monthly
Calculation method (if applicable)	NA
QA/QC procedures	This data is directly used for calculation of emissions reduction. The metering equipment is properly calibrated and checked periodically for accuracy, to ensure that any error resulting from such equipment does not exceed +0.2% of full-scale rating. To guarantee QA/QC it is double checked by receipt of electricity sales.
Purpose of data/parameter	Calculation Baseline Emissions
Additional comments	The data is archived electronically. Archived data will be kept during the crediting period and two years later.

D.3. Implementation of sampling plan

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NA

SECTION E. Calculation of emission reductions or net anthropogenic removals

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

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Baseline emissions are CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due the project activity. In order to obtain these emissions it is necessary to calculate and emission factor *ex-ante*, which is the result from an Operative Margin and a Build Margin emission factor. As it is explained in the PDD, the results for these margins are obtained using the following formulas.

$$EF_{OM,y} = \frac{\sum_{i,j} F_{i,j,y} \times COEF_{i,j}}{\sum_j GEN_{j,y}}$$

Where:

- EF_{OM,y} = Operative margin CO₂ emissions factor in year y (tCO₂/MWh)
 F_{i,j,y} = Consumption of fuel i (in TJ) by fuel sources j in year y.
 COEF_{i,j,y} = CO₂ emission coefficient of fuel i in tCO₂/TJ.
 GEN_{j,y} = Electricity in MWh delivered to the grid by the j source.
 j = Refers to the power sources delivering electricity to the grid, not including low-operating cost and must run power plants, and including imports to the grid

$$EF_{BM,y} = \frac{\sum_{i,m} F_{i,m,y} \times COEF_{i,m}}{\sum_m GEN_{m,y}}$$

Where:

- EF_{BM,y} = Build margin CO₂ emissions factor in year y (tCO₂/MWh)
 F_{i,m,y} = Consumption of fuel i (in TJ) by fuel sources m in year y.
 COEF_{i,m,y} = CO₂ emission coefficient of fuel i in tCO₂/TJ.
 GEN_{j,y} = Electricity in MWh delivered to the grid by the j source.
 m = Refers to the power units included in the build margin.

Once determined these coefficients, the emission factor can be calculated using the formula:

$$EF_{grid,CM,y} = w_{OM} \times EF_{OM,y} + w_{BM} \times EF_{BM,y}$$

The values used for w_{OM} and w_{BM} are indicated by the methodology for wind farm projects.

The emission factor for the grid is finally calculated and there is no need to update it during the project crediting period. The grid emission factor value obtained was 0.5805 tCO₂/MWh.

To conclude this section, using the value mentioned before it is possible to calculate the baseline emissions in one year.

$$BE_y = EG_{facility,y} \times EF_{grid,CM,y}$$

Where:

BE_y = Baseline emissions in year y (tCO₂)

$EG_{facility,y}$ = Net electricity generated and delivered to the grid as a result of the implementation of the CDM project activity in year y (MWh).

$EF_{grid,CM,y}$ = Emission factor for the grid (tCO₂ / MWh)

OAXACA IV Wind Energy Project					
PERIOD	METER READINGS (*) [MWh]				$EG_{facility,y}$ [MWh]
	$EG_{output,y}$	$EG_{project,y}$ (Oaxaca IV)	$EG_{another,y}$	$EG_{import,y}$	CALCULATION $EG_{facility,y}$
August-17	37,620	21,282	16,339	313	20,969
September-17	3,279	1,875	1,404	110	1,765
October-17	69,408	35,793	33,615	75	35,718
November-17	84,478	43,005	41,472	20	42,986
December-17	114,788	58,386	56,402	12	58,374
January-18	101,479	52,130	49,349	16	52,114
February-18	67,320	34,813	32,507	118	34,694
March-18	61,873	31,248	30,625	207	31,041
April-18	61,201	32,627	28,575	88	32,539
May-18	35,740	19,986	15,754	200	19,786
June-18	19,013	10,852	8,161	333	10,519
July-18	87,296	45,360	41,936	61	45,299
August-18	73,443	40,443	33,000	56	40,388
September-18	51,172	29,044	22,128	175	28,869
October-18	71,650	38,362	33,288	130	38,232
November-18	73,681	39,219	34,462	82	39,137
December-18	91,947	47,561	44,386	80	47,480
January-19	107,990	55,095	52,895	37	55,058
February-19	50,433	26,485	23,949	120	26,365
March-19	87,779	45,563	42,216	118	45,445
April-19	51,879	26,152	25,727	141	26,011
May-19	17,606	9,758	7,848	295	9,462
June-19	31,203	16,696	14,508	276	16,420
July-19	71,070	39,353	31,716	150	39,203
August-19	34,535	20,114	14,421	321	19,793
September-19	48,817	27,729	21,088	172	27,557
October-19	46,092	26,115	19,977	152	25,963
November-19	99,949	53,098	46,850	42	53,056
TOTAL	1,752,741	928,143	824,597	3,899	924,245

EG _{facility,y}	924,245	MWh
EF _{grid,CM,y}	0.5805	tCO ₂ /MWh
Baseline emissions	536,523	tCO ₂

Reductions up to 31/12/2012		tCO ₂
Reductions from 1/1/2013	536,523	tCO ₂

To be conservative the **EG_{import,y}** is fully deducted including the electricity imported from the grid by 'another project B.

This assumption is the reason of the difference of the energy production and the receipt of sales. The project contemplates this conservative assumption.

$$BE_y = (924,245 \text{ MWh}) \cdot (0.5805 \text{ tCO}_2/\text{MWh}) = 536,523 \text{ tCO}_2$$

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

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Oaxaca IV Wind Energy Project is a renewable source of electricity generation and doesn't involve the use of fossil fuel for the energy production. Consequently, there are not emissions related to the activity of the project.

$$PE_y = 0 \text{ tCO}_2e$$

E.3. Calculation of leakage emissions

>>

For this kind of projects, the main emissions potentially giving rise to leakage are emissions due to activities such power plant construction and upstream emissions from fossil fuel (e.g. extraction, processing, and transportation). As a result, these emissions sources are neglected and a zero emission leakage is considered for the project.

$$LE_y = 0 \text{ tCO}_2e$$

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

Using the values obtained before, the total amount of reduced emissions is calculated as follows:

$$ER_y = BE_y$$

Where:

ER_y = Reduced emissions in year y (tCO₂e)

BE_y = Baseline emissions in year y (tCO₂)

	Baseline GHG emissions or baseline net GHG removals (t CO ₂ e)	Project GHG emissions or actual net GHG removals (t CO ₂ e)	Leakage GHG emissions (t CO ₂ e)	GHG emission reductions or net anthropogenic GHG removals (t CO ₂ e)		
				Before 01/01/2013	From 01/01/2013	Total amount
Total	536,523	0			536,523	536,523

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 ₂ e)	Amount estimated ex ante for this monitoring period in the PDD (t CO ₂ e)
536,523	571,254

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

>>

The amount estimated ex ante for this monitoring period in the PDD is calculated regarding the total days of the period, in this case 851 days. The total estimated reduction in the PDD per annum is 245,015 tCO₂e. This number is divided by 365 days in order to have the estimated reduction per day. By multiplying the result of the operation above by the days of the period, we get the amount estimated ex ante for this monitoring period, which is 571,254 tCO₂e.

E.6. Remarks on increase in achieved emission reductions

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The actual emission reductions achieved during the current monitoring period is above the total estimated in the registered PDD. The main reasons from the variations are directly to the wind conditions during the monitoring period that increases the electricity generation. The emission reductions of this monitoring period are 6.08% lower than the emission reductions that appear in the registered PDD.

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

>>N/A

Document information

Version	Date	Description
07.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 <i>F-CDM-MR</i> to <i>CDM-MR-FORM</i>; • 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).
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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