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	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	06	
Completion date of this monitoring report	27/10/2017	
Monitoring period number	Second monitoring period	
Duration of this monitoring period	01/02/2014 - 31/07/2017	
Monitoring report number for this monitoring report	01	
Project participants	CE Oaxaca Cuatro S. de R.L. de C.V.	
Host Party	Mexico	
Sectoral scopes	Sectoral Scope 1- Energy industries (renewable-/non-renewable sources).	
Applied methodologies and standardized baselines	ACM0002 version 12.1.0 – 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
		915,224
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	857,217	

SECTION A. Description of project activity

A.1. General description of project activity

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The objective of the project activity is the construction of a wind farm; 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 *February 1st 2014 to July 31st 2017*, including both days.

At the end of the verification period **1,576,613 MWh** of electricity were produced and sent to the grid. Therefore, the total amount of reduced emissions is **915,224 tCO_2e.**

A.2. Location of project activity

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The project is located in La Venta Municipality, windy region, in the Isthmus of Tehuatepec, 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).

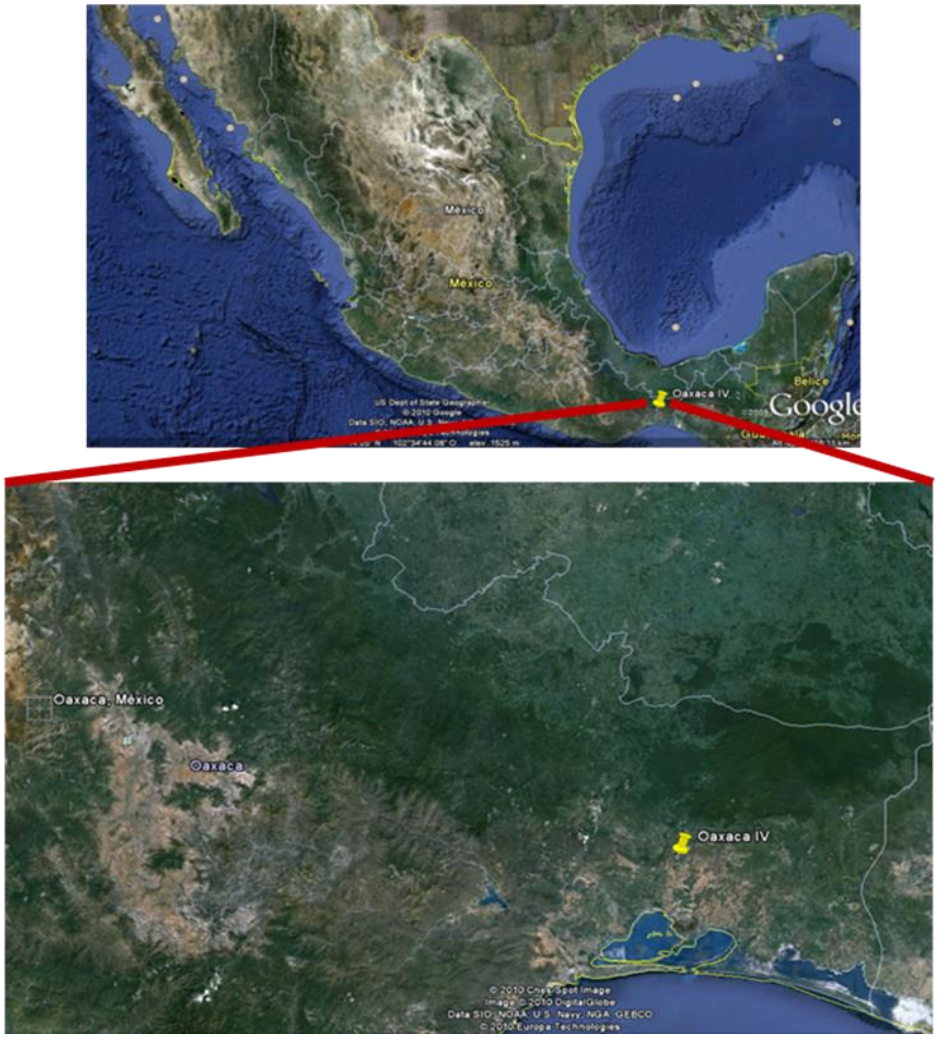

Figure 1. Localization of the project activity.

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)	CE Oaxaca Cuatro S. de R.L. de C.V. (Private entity)	No

A.4. Reference 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 May 2012 to 15 May 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 resume 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 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.

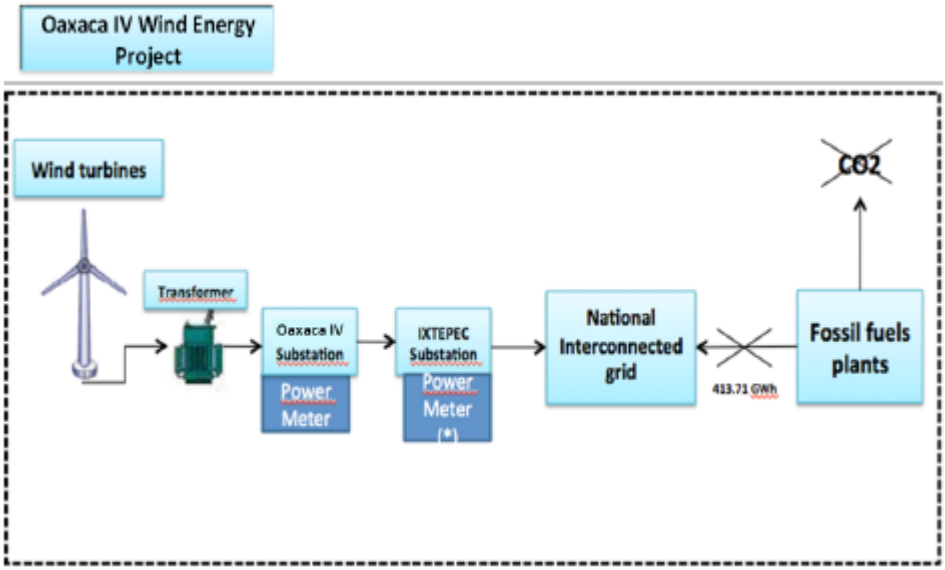

Figure 2. *Project Boundary*

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 or standardized baselines

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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 applied standards or tools

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N/A

B.2.6. Changes to project design

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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.

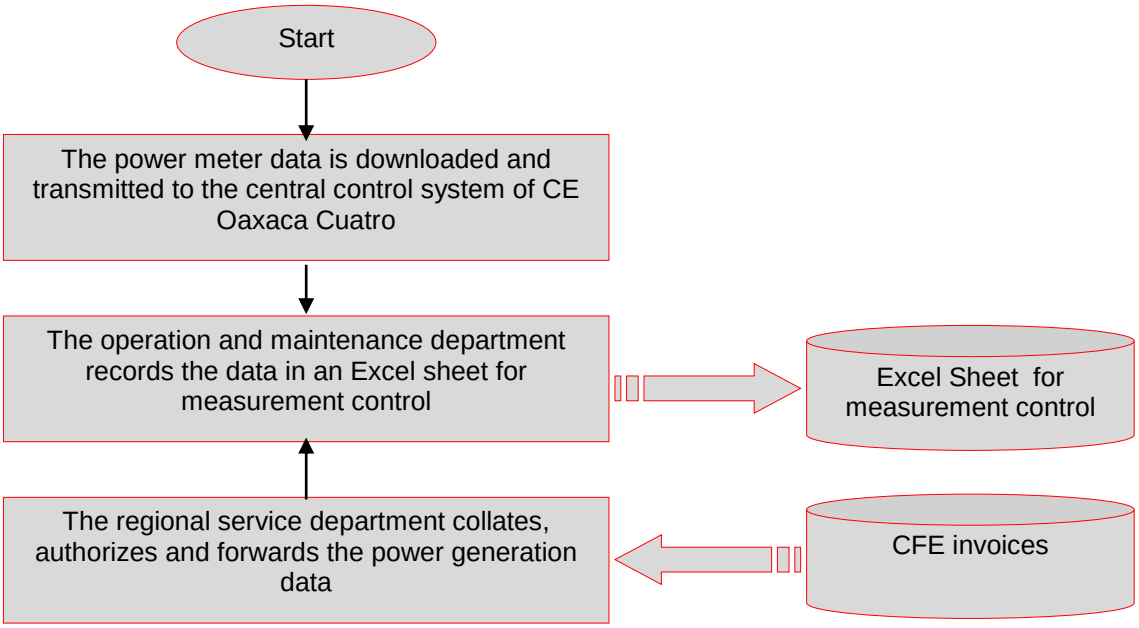


Figure 3. *Diagram of Generated Electricity Monitoring System*

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.

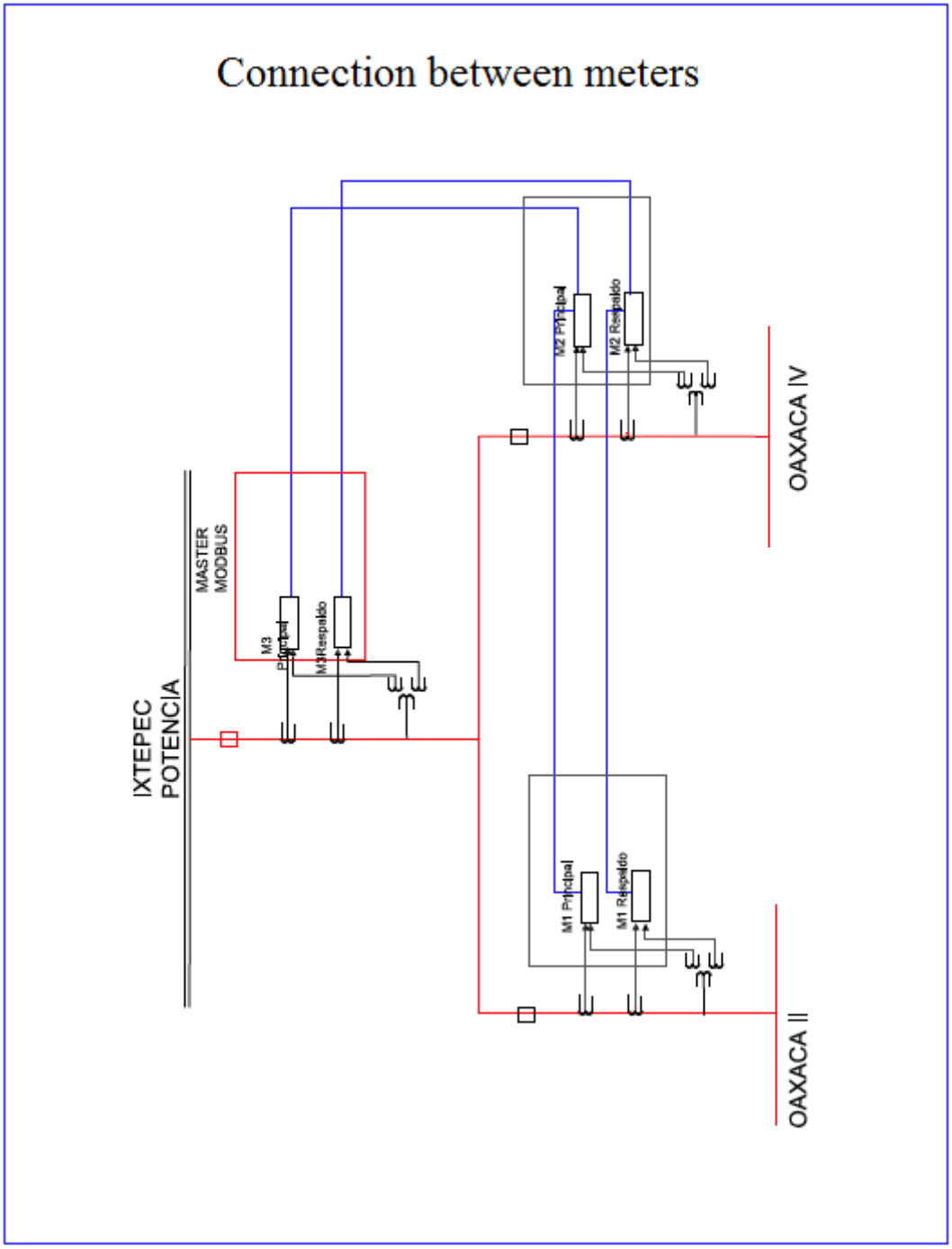


Figure 4. *Interconnection and Measuring Point*

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

$$EGfacility,y = \left(\frac{\text{EG project, y}}{EG\ project,y + EG\ another,y} * EG\ output,y\right) - EG\ import,y$$

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	20131845	Yearly	09/09/2013
			20141850	Yearly	27/08/2014
			20151394	Yearly	11/08/2015
			20161421	Yearly	27/07/2016
			20171332	Yearly	28/06/2017
MT-1011A456-01	Backup power meter Ixtepec Potencia Substation	LAPEM	20131845	Yearly	09/09/2013
			20141851	Yearly	27/08/2014
			20151395	Yearly	11/08/2015

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

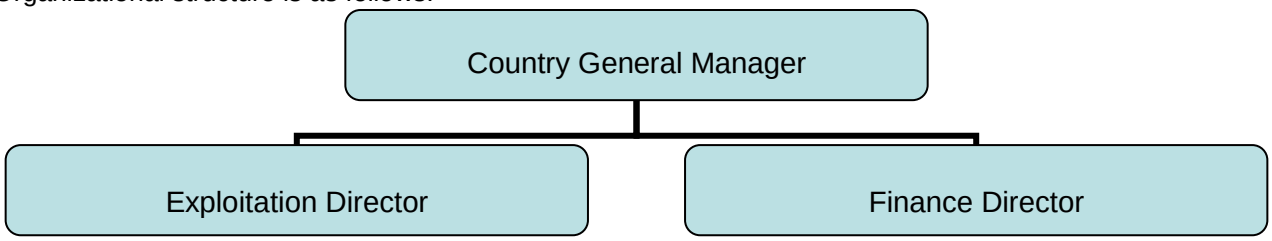
			20161422	Yearly	27/07/2016
			20171333	Yearly	28/06/2017
MT-1011A453-01	Main power meter Oaxaca II Substation	LAPEM	20131849	Yearly	09/09/2013
			20141853	Yearly	28/08/2014
			20151399	Yearly	13/08/2015
			20161443	Yearly	28/07/2016
			20171351	Yearly	29/06/2017
MT-1011A560-01	Backup power meter Oaxaca II Substation	LAPEM	20131850	Yearly	09/09/2013
			20141855	Yearly	28/08/2014
			20151401	Yearly	13/08/2015
			20161445	Yearly	28/07/2016
			20171353	Yearly	29/06/2017
MT-1011A462-01	Main power meter Oaxaca IV Substation	LAPEM	20131851	Yearly	09/09/2013
			20141854	Yearly	29/08/2014
			20151400	Yearly	14/08/2015
			20161444	Yearly	27/07/2016
			20171352	Yearly	30/06/2017
MT-1011A388-01	Backup power meter Oaxaca IV Substation	LAPEM	20131852	Yearly	09/09/2013
			20141852	Yearly	29/08/2014
			20151398	Yearly	14/08/2015
			20161442	Yearly	29/07/2016
			20171350	Yearly	30/06/2017

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 certificated formal process.
   c) After set up monitoring equipment is calibrated by CFE periodically as determined by the Mexican Law and/or PPA, and checked as necessary by CFE for accuracy.

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

Monthly hourly readings 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

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 are 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	1,576,613 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: 09 September 2013, 27 August 2014, 11 August 2015, 27 July 2016 and 28 June 2017 Validity: 28 June 2018 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: 09 September 2013, 28 August 2014, 13 August 2015, 28 July 2016 and 29 June 2017 Validity: 29 June 2018 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: 09 September 2013, 29 August 2014, 14 August 2015, 27 July 2016 and 30 June 2017 Validity: 30 June 2018
Measuring/reading/recording frequency	Measurement equipment: Power meters Measuring: Continuos, with report every 5 minutes Recording: Monthly
Calculation method (if applicable)	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. 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. 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: $$EGfacility, y = \left(\frac{\text{EG project, y}}{EG\ project, y + EG\ another, y} * EG\ output, y\right) - EG\ import, y$$ $EG_{output,y}$ $EG_{import,y}$ $EG_{project,y}$ and $EG_{another,y}$ are measured directly by electricity meters.
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 $EG_{output,y}$ and $EG_{project,y}$ from main and backup meter and the maximum value for $EG_{import,y}$ and $EG_{another,y}$ from main and backup meter

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	2,902,161 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: 09 September 2013, 27 August 2014, 11 August 2015, 27 July 2016 and 28 June 2017 Validity: 28 June 2018
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	**$EG_{import,y}$**
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	5,919 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: 09 September 2013, 27 August 2014, 11 August 2015, 27 July 2016 and 28 June 2017 Validity: 28 June 2018
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. In order to be conservative $\mathbf{EG_{import,y}}$ is fully deducted including the electricity imported from the grid by 'another project B'

Data/Parameter	$\mathbf{EG_{project,y}}$
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	1,537,567 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: 09 September 2013, 29 August 2014, 14 August 2015, 27 July 2016 and 30 June 2017 Validity: 30 June 2018
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	1,364,912 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: 09 September 2013, 28 August 2014, 13 August 2015, 28 July 2016 and 29 June 2017 Validity: 29 June 2018
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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N/A

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 CO_2 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 CO_2 emissions factor in year *y* (tCO_2/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 tCO_2/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 CO_2 emissions factor in year *y* (tCO_2/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 tCO_2/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 tCO_2/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* (tCO_2)

$EG_{facility,y}$ = 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 (tCO_2 / MWh)

OAXACA II Wind Energy Project							
	METER READINGS (*) [MWh]				EGfacility,y [MWh]		
PERIOD	EGoutput,y	EGproject,y (Oaxaca IV)	EGanother,y (Oaxaca II)	EGimport,y	CALCULATION EGfacility,y	INVOICE	MINIMUM VALUE
FEBRUARY 2014	74,583	39,587	34,995	124	39,463.52	39,587	39,464
MARCH 2014	63,318	32,254	31,064	185	32,068	32,254	32,068
APRIL 2014	60,952	31,545	29,407	112	31,433	31,545	31,433
MAY 2014.	63,371	33,225	30,146	172	33,053	33,225	33,053
JUNE 2014	22,861	13,808	9,053	383	13,425	13,088	13,088
JULY 2014	100,083	51,652	48,432	59	51,593	51,652	51,593
AUGUST 2014	69,373	38,962	30,410	103	38,859	38,962	38,859
SEPTEMBER 2014	37,964	22,374	15,590	230	22,145	22,374	22,145
OCTOBER 2014	70,078	37,826	32,252	228	37,598	37,826	37,598
NOVEMBER 2014	95,565	51,286	44,279	55	51,231	51,286	51,231
DECEMBER 2014	107,263	56,088	51,175	4	56,084	56,088	56,084
JANUARY 2015	119,405	59,300	60,105	21	59,279	59,300	59,279
FEBRUARY 2015	94,275	48,275	45,921	79	48,236	48,311	48,236
MARCH 2015	88,744	45,947	42,797	116	45,831	45,947	45,831
APRIL 2015	43,625	23,385	20,241	207	23,178	23,351	23,178
MAY 2015.	48,684	26,370	22,314	297	26,073	26,370	26,073
JUNE 2015	70,082	37,076	33,006	113	36,963	37,076	36,963
JULY 2015	74,386	40,094	34,292	115	39,979	40,094	39,979
AUGUST 2015	73,494	40,297	33,197	110	40,187	40,297	40,187
SEPTEMBER 2015	44,345	25,632	18,713	146	25,486	25,632	25,486
OCTOBER 2015	70,610	38,851	31,760	113	38,737	38,851	38,737
NOVEMBER 2015	109,635	57,900	51,735	18	57,882	57,900	57,882
DECEMBER 2015	77,927	41,836	36,091	100	41,735	41,836	41,735
JANUARY 2016	99,202	50,083	49,119	78	50,005	50,083	50,005
FEBRUARY 2016	102,564	52,138	50,426	37	52,102	52,138	52,102
MARCH 2016	54,105	28,881	25,223	177	28,704	28,881	28,704
APRIL 2016	60,963	32,389	28,860	111	32,127	32,389	32,127
MAY 2016.	36,203	19,382	16,822	280	19,101	19,382	19,101
JUNE 2016	39,059	21,461	17,599	362	21,098	21,461	21,098
JULY 2016	72,686	40,580	32,311	49	40,417	40,580	40,417
AUGUST 2016	49,241	27,056	22,185	266	26,790	27,056	26,790
SEPTEMBER 2016	52,619	29,626	22,994	172	29,453	29,626	29,453
OCTOBER 2016	108,157	56,833	51,324	39	56,794	56,833	56,794
NOVEMBER 2016	116,308	59,876	56,433	7	59,869	59,876	59,869
DECEMBER 2016	97,039	50,762	46,277	44	50,718	50,762	50,718
JANUARY 2017	72,936	38,503	34,433	107	38,396	38,503	38,396
FEBRUARY 2017	64,909	33,256	31,653	130	33,126	33,256	33,126
MARCH 2017	97,441	50,337	47,105	79	50,258	50,337	50,258
APRIL 2017	61,929	32,598	29,238	94	32,554	32,746	32,554
MAY 2017.	21,807	11,817	9,991	381	11,435	11,817	11,435
JUNE 2017	14,366	8,420	5,946	413	8,007	8,420	8,007
JULY 2017	81,691	45,511	36,180	34	45,478	45,511	45,478
TOTAL	2,902,161	1,537,567	1,364,912	5,919	1,531,473	1,536,997	1,576,613

EGfacility,y	1,576,613	MWh
EFgrid,CM,y	0.5805	tCO2/MWh
Baseline emissions	915,224	tCO2

Reductions up to 31/12/2012		tCO2
Reductions from 1/1/2013	915,224	tCO2

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.

$$BE_y = (1{,}576{,}613\ MWh)*(0.5805\ tCO_2/MWh) = 915{,}224\ tCO_2$$

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.

$$PE_y = 0\ tCO_2e$$

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.

$$LE_y = 0\ tCO_2e$$

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* (tCO_2e)

BEy = Baseline emissions in year *y* (tCO_2)

	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	915,224	0	0		915,224	915,224

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)
915,224	857,217

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 6.77% higher than the emission reductions that appear in the registered PDD.