

OAXACA IV WIND ENERGY PROJECT

Document prepared by: CE Oaxaca Cuatro S. de R.L de C.V.

Project Title	Oaxaca IV Wind Energy Project
Version	Version 2.0
Report ID	OAXIV-VER-2013-001
Date of Issue	14 May 2013
Project ID	<i>VCS project database ID, if registered</i>
Monitoring Period	18-November-2011 to 15-May-2012
Prepared By	Manuel Elias Martinez García, CE Oaxaca Cuatro S. de R.L. de C.V.
Contact	CE Oaxaca Cuatro S. de R.L. de C.V.; Paseo de Tamarindos No.90 Arcos Bosques Torre 1. Piso 30; 05120 Mexico D.F.; telephone: +52 55 42 11 67 27; email: manuelelias.martinez.garcia@acciona.com

Table of Contents

1. Project details	3
1.1. Summary Description of Project	3
1.2. Sectoral Scope and Project Type	3
1.3. Project Proponent	3
1.4. Other Entities Involved in the Project	4
1.5. Project Start Date	4
1.6. Project Crediting Period	4
1.7. Project Location	4
1.8. Title and Reference of Methodology	5
2. Implementation status	5
2.1. Implementation Status of the Project Activity	5
2.2. Project Description Deviations	7
2.3. Grouped Project	7
3. Data and parameters	7
3.1. Data and Parameters Available at Validation	7
3.2. Data and Parameters Monitored	7
3.3. Description of the Monitoring Plan	13
4. Quantification of GHG emission reductions and removals	17
4.1. Baseline Emissions	17
4.2. Project Emissions	18
4.3. Leakage	18
4.4. Summary of GHG Emission Reductions and Removals	18
5. Additional information	19

1 PROJECT DETAILS

1.1 Summary Description of Project

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. Which would be sold to the CFE. The electricity generated by the project displaces electricity from the Mexican grid. In the current scenario, so as in the baseline scenario, the power units of the Mexican national grid system which are mainly based in the utilization of fossil fuel sources, have been providing the electricity demand to the national grid users, the project activity will contribute in increasing the renewable energy sources share of the grid system reducing its total emission rate per kilowatt-hour generated. For this reason, due to this project, it was expected that 245,015 tCO₂ per year will be abated.

The project was registered under the UNFCCC on May 15th, 2012. Registration number 6216. The project has never request issuance under UNFCCC.

1.2 Sectoral Scope and Project Type

VCS sectoral scope: 1. Energy (renewable/non-renewable).

Approved consolidated baseline methodology **ACM0002 “Consolidated baseline methodology for grid connected electricity generation from renewable sources”**; Version 12.1.0

1.3 Project Proponent

The project proponent as well as project owner and responsible to implement the project, CE Oaxaca Cuatro S. de R.L. de C.V. is a company created for a specific purpose and its objective is the promotion of renewable energy projects.

Organization:	CE Oaxaca Cuatro S. de R.L. de C.V.
Street/P.O.Box:	Paseo de Tamarindos No.90 Arcos Bosques Torre 1. Piso 30.
City:	México D.F.
Postcode/ZIP:	05120
Country:	México
Telephone:	+52 (55) 42 11 67 00
FAX:	+52 (55) 52 91 99 48

Represented by:	Manuel Elías Martínez García
Title:	Authorized Representative
Salutation:	Mr.
Direct FAX:	+52 (55) 52 91 99 48
Direct tel:	+52 (55) 42 11 67 27

1.4 Other Entities Involved in the Project

There is no other project participant(s).

1.5 Project Start Date

The project start date is the date on which the project began generating GHG emission reductions, so the project start date is November 18, 2011.

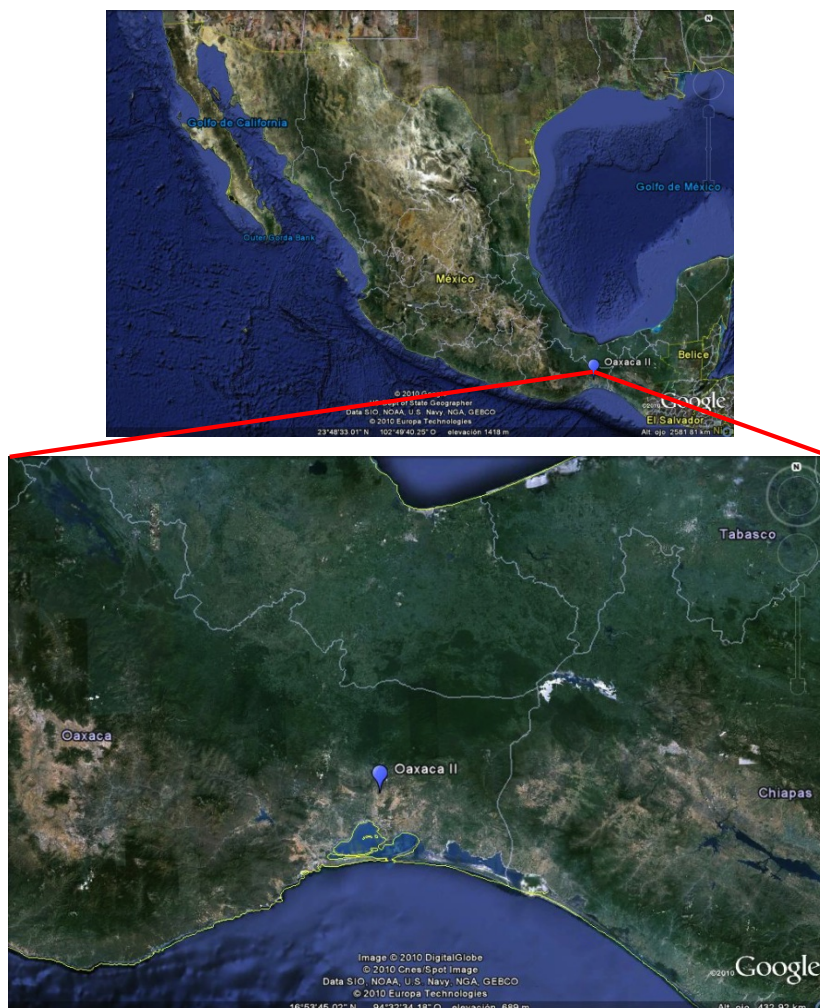
1.6 Project Crediting Period

The starting date of the first crediting period for the project will be the date on which the first monitoring period commences. The wind farm began generating GHG emission reductions on November 18, 2011. The expected operational lifetime of the project activity is 20 years and the project proponent expects to go for a crediting period of 10 years. So, the first crediting period will go from November 18, 2011 to November 17, 2021.

The crediting period lasts 10 years and is renewable twice. The first crediting period will start on November 18, 2011. The last VCS crediting period will end at the date when the last CDM crediting period of the project activity will expire as per paragraph 3.8.3 of the VCS Standard (version 3.3). This means VCS crediting period will end on May 15th 2022.

1.7 Project Location

The project activity will be located in La Venta municipality, on coordinates 16°36'36.21" N and 94°47'23.98" W (decimal coordinates: 16.61005925 latitude and -94.78999567 longitude).



1.8 Title and Reference of Methodology

The methodology ACM0002 version 12.1.0 will be used: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”.

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

- Tool to calculate the emission factor for an electricity system (ver. 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).

2 IMPLEMENTATION STATUS

2.1 Implementation Status of the Project Activity

- The project start date is the date on which the project began generating GHG emission reductions, so the project start date is November 18th. Turbines entered into operation with the following calendar:

Wind Turbine Generator Number	Commissioning Date	Commissioning Certificate
D1.1.	18-nov-11	D1.1.CPM181111
D1.2.	18-nov-11	D1.2.CPM181111
D1.3.	18-nov-11	D1.3.CPM181111
D1.4.	18-nov-11	D1.4.CPM181111
D1.5.	20-nov-11	D1.5.CPM201111
D2.1.	19-nov-11	D2.1.CPM191111
D2.2.	18-nov-11	D2.2.CPM181111
D2.3.	20-nov-11	D2.3.CPM201111
D2.4.	19-nov-11	D2.4.CPM191111
D2.5.	25-nov-11	D2.5.CPM251111
D3.1.	20-nov-11	D3.1.CPM201111
D3.2.	18-nov-11	D3.2.CPM181111
D3.3.	10-dic-11	D3.3.CPM101211
D3.4.	19-nov-11	D3.4.CPM191111
D4.1.	09-dic-11	D4.1.CPM091211
D4.2.	17-nov-11	D4.2.CPM171111
D4.3.	17-nov-11	D4.3.CPM171111
D4.4.	14-dic-11	D4.4.CPM141211
D4.5.	17-nov-11	D4.5.CPM171111
D5.1.	06-dic-11	D5.1.CPM061211
D5.2.	17-nov-11	D5.2.CPM171111
D5.3.	20-nov-11	D5.3.CPM201111
D5.4.	17-nov-11	D5.4.CPM171111
D5.5.	23-dic-11	D5.5.CPM231211
D6.1.	22-nov-11	D6.1.CPM221111
D6.2.	23-nov-11	D6.2.CPM231111
D6.3.	22-nov-11	D6.3.CPM221111
D6.4.	23-nov-11	D6.4.CPM231111
D6.5.	23-nov-11	D6.5.CPM231111
D7.1.	24-nov-11	D7.1.CPM241111
D7.2.	23-nov-11	D7.2.CPM231111
D7.3.	24-nov-11	D7.3.CPM241111
D7.4.	22-nov-11	D7.4.CPM221111
D7.5.	22-nov-11	D7.5.CPM221111
D8.1.	27-nov-11	D8.1.CPM271111
D8.2.	26-nov-11	D8.2.CPM261111
D8.3.	10-dic-11	D8.3.CPM101211
D8.4.	02-dic-11	D8.4.CPM021211
D8.5.	27-nov-11	D8.5.CPM271111
D9.1.	30-nov-11	D9.1.CPM301111
D9.2.	02-dic-11	D9.2.CPM021211
D9.3.	04-dic-11	D9.3.CPM041211
D9.4.	04-dic-11	D9.4.CPM041211
D10.1.	25-nov-11	D10.1.CPM251111
D10.2.	26-nov-11	D10.2.CPM261111
D10.3.	28-nov-11	D10.3.CPM281111
D10.4.	25-nov-11	D10.4.CPM251111
D10.5.	03-dic-11	D10.5.CPM031211
D11.1.	25-nov-11	D11.1.CPM251111
D11.2.	04-dic-11	D11.2.CPM041211
D11.3.	30-dic-11	D11.3.CPM301211
D11.4.	24-nov-11	D11.4.CPM241111
D11.5.	04-dic-11	D11.5.CPM041211
D12.1.	04-dic-11	D12.1.CPM041211
D12.2.	10-dic-11	D12.2.CPM101211
D12.3.	06-dic-11	D12.3.CPM061211
D12.4.	27-nov-11	D12.4.CPM271111
D12.5.	27-nov-11	D12.5.CPM271111
D13.1.	06-dic-11	D13.1.CPM061211
D13.2.	06-dic-11	D13.2.CPM061211
D13.3.	04-dic-11	D13.3.CPM041211
D13.4.	22-nov-11	D13.4.CPM221111
D13.5.	04-dic-11	D13.5.CPM041211
D14.1.	04-dic-11	D14.1.CPM041211
D14.2.	03-dic-11	D14.2.CPM031211
D14.3.	27-nov-11	D14.3.CPM271111
D14.4.	06-dic-11	D14.4.CPM061211
D14.5.	29-nov-11	D14.5.CPM291111

- the project activity has been operating normally and there have been no situations which may impact the applicability of the methodology.
- During the monitoring period, there have been no major repairs or changes to the installed equipment.
- The project activity has an operational lifetime of approximately 20 years.
- The project has been registered under the UNFCCC as a CDM project with the effect from May 15th, 2012. Registration number 6216.

Personnel in charge of implementing procedures are as per the “Monitoring and Verification Manual for CDM/VCS Purposes”.

2.2 Project description deviations

There has been no request for deviation for this monitoring period.

2.3 Grouped Project

Not applicable.

3 DATA AND PARAMETERS

3.1 Data and Parameters Available at Validation

Data Unit / Parameter:	$EF_{grid,CM,y}$
Data unit:	tCO ₂ /MWh
Description:	Baseline Emission factor of the Mexican Grid
Source of data:	Registered PDD
Value applied:	0.5805 tCO₂/MWh
Purpose of the data:	This data is used for baseline emissions calculation
Any comment:	-

3.2 Data and Parameters Monitored

Data Unit / Parameter:	$EG_{facility,y}$
Data unit:	MWh/yr
Description:	Quantity of net electricity generation supplied by the project plant to the grid

	in year y
Source of data:	Measured according to the calculation based on the $EG_{output,y}$ $EG_{import,y}$ $EG_{project,y}$ and $EG_{another,y}$ as the formula below.
Description of measurement methods and procedures to be applied:	Net electricity supplied by the project activity to the grid. Continuous measurement and at least monthly recording. The metering equipment complies with CFE regulations and is properly calibrated by CFE. 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 another 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 will share 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: $EG_{facility,y} = \left(\frac{EG_{project,y}}{EG_{project,y} + EG_{another,y}} * EG_{output,y} \right) - EG_{import,y}$ $EG_{output,y}$ $EG_{import,y}$ $EG_{project,y}$ and $EG_{another,y}$ will be measured directly by electricity meters (please refer to the 3.3. for measurement breakdown).
Frequency of monitoring/recording:	Continuous measurement and at least monthly recording.
Value monitored:	212,990 MWh
Monitoring equipment:	Identification code for meters in Ixtepec substation: • Main: MT-1011A383-01 • Backup: MT-1011A456-01 Identification code for meters in Oaxaca IV substation: • Main: MT-1011A462-01 • Backup: MT-1011A388-01 Identification code for meters in 'another project B' (Oaxaca II) substation: • Main: MT-1011A453-01 • Backup: MT-1011A560-01

	Main and backup meters are bidirectional and have 0.2% accuracy class.
QA/QC procedures to be applied:	The metering equipment in Ixtepec Substation, 'another project B' (Oaxaca II) and Oaxaca IV Substation are properly calibrated and checked annually for accuracy, as per Mexican law and/or PPA, to ensure that any error resulting from such equipment shall not exceed +/- 0.2% of full-scale rating. To guarantee QA/QC, double checked by invoice of electricity sales is done. Main meter, in Ixtepec substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 13, 2011. No calibration is required until (October 12, 2012) Backup meter, in Ixtepec substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 13, 2011. No calibration is required until (October 12, 2012) Main meter, in 'another project B' (Oaxaca II) substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 14, 2011. No calibration is required until (October 13, 2012) Backup meter, in 'another project B' (Oaxaca II) substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 14, 2011. No calibration is required until (October 13, 2012) Main meter, in Oaxaca IV substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 14, 2011. No calibration is required until (October 13, 2012) Backup meter, in Oaxaca IV substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 14, 2011. No calibration is required until (October 13, 2012)
Calculation method:	$EG_{facility,y} = \left(\frac{EG_{project,y}}{EG_{project,y} + EG_{another,y}} * EG_{output,y} \right) - EG_{import,y}$
Any comment:	The data is archived electronically. Archived data will be kept during the crediting period and two years later

Data Unit / Parameter:	EG _{output,y}
Data unit:	MWh
Description:	Electricity supplied to the grid by the proposed project and 'another project B' during year y
Source of data:	Measured by power meter M3 main meter (maestro fiscal principal) or M3 backup meter (maestro fiscal respaldo)
Description of	Continuous measurement and at least monthly recording. The

measurement methods and procedures to be applied:	metering equipment complies with CFE regulations and is properly calibrated by CFE. Directly obtained from the metering equipment installed in the Ixtepec substation.
Frequency of monitoring/recording:	Continuous measurement and at least monthly recording.
Value monitored:	443,628 MWh
Monitoring equipment:	Identification code for meters in M3, Ixtepec substation: • Main: MT-1011A383-01 • Backup: MT-1011A456-01 Main and backup meters are bidirectional and have 0.2% accuracy class
QA/QC procedures to be applied:	The metering equipment in Ixtepec Substation are properly calibrated and checked annually for accuracy, as per Mexican law and/or PPA, to ensure that any error resulting from such equipment shall not exceed +/- 0.2% of full-scale rating. To guarantee QA/QC, double checked by invoice of electricity sales is done. Main meter, in Ixtepec substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 13, 2011. No calibration is required until (October 12, 2012) Backup meter, in Ixtepec substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 13, 2011. No calibration is required until (October 12, 2012)
Calculation method:	Measured
Any comment:	The data is archived electronically. Archived data will be kept during the crediting period and two years later.

Data Unit / Parameter:	EG_{import,y}
Data unit:	MWh
Description:	Electricity purchased from the grid by the proposed project and 'another project B' during year y
Source of data:	Measured by power meter M3 main meter (maestro fiscal principal) or M3 backup meter (maestro fiscal respaldo)
Description of measurement methods and procedures to be applied:	Continuous measurement and at least monthly recording. The metering equipment complies with CFE regulations and is properly calibrated by CFE. Directly obtained from the metering equipment installed in the Ixtepec substation.
Frequency of monitoring/recording:	Continuous measurement and at least monthly recording.

Value monitored:	613 MWh
Monitoring equipment:	Identification code for meters in M3, Ixtepec substation: • Main: MT-1011A383-01 • Backup: MT-1011A456-01 Main and backup meters are bidirectional and have 0.2% accuracy class
QA/QC procedures to be applied:	The metering equipment in Ixtepec Substation is properly calibrated and checked annually for accuracy, as per Mexican law and/or PPA, to ensure that any error resulting from such equipment shall not exceed +/- 0.2% of full-scale rating. Receipts for electricity sales are kept for further verification, when necessary. Main meter, in Ixtepec substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 13, 2011. No calibration is required until (October 12, 2012) Backup meter, in Ixtepec substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 13, 2011. No calibration is required until (October 12, 2012)
Calculation method:	Measured
Any comment:	The data is archived electronically. Archived data will be kept during the crediting period and two years later.

Data Unit / Parameter:	EG project,y
Data unit:	MWh
Description:	Electricity measured by meters installed at the project site Oaxaca IV substation
Source of data:	Measured by power meter M2 main meter (esclavo principal) o M2 backup meter (esclavo respaldo)
Description of measurement methods and procedures to be applied:	Continuous measurement and at least monthly recording. The metering equipment complies with CFE regulations and is properly calibrated by CFE. Directly obtained from the metering equipment installed in the Oaxaca IV substation.
Frequency of monitoring/recording:	Continuous measurement and at least monthly recording.
Value monitored:	215,158 MWh
Monitoring equipment:	Identification code for meters in M2, Oaxaca IV substation: • Main: MT-1011A462-01 • Backup: MT-1011A388-01 Main and backup meters are bidirectional and have 0.2% accuracy

	class.
QA/QC procedures to be applied:	The metering equipment in Oaxaca IV Substation is properly calibrated and checked annually for accuracy, as per Mexican law and/or PPA, to ensure that any error resulting from such equipment shall not exceed +/- 0.2% of full-scale rating. To guarantee QA/QC, double checked by invoice of electricity sales is done. Main meter, in Oaxaca IV substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 14, 2011. No calibration is required until (October 13, 2012) Backup meter, in Oaxaca IV substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 14, 2011. No calibration is required until (October 13, 2012)
Calculation method:	Measured
Any comment:	The data is archived electronically. Archived data will be kept during the crediting period and two years later.

Data Unit / Parameter:	EG _{another,y}
Data unit:	MWh
Description:	Electricity measured by meters installed at 'another project B' (Oaxaca II) project site substation
Source of data:	Measured by power meter M1 main meter (esclavo principal) o M1 backup meter (esclavo respaldo)
Description of measurement methods and procedures to be applied:	Continuous measurement and at least monthly recording. The metering equipment complies with CFE regulations and is properly calibrated by CFE. Directly obtained from the metering equipment installed in 'another project B' substation.
Frequency of monitoring/recording:	Continuous measurement and at least monthly recording.
Value monitored:	231,426 MWh
Monitoring equipment:	Identification code for meters in M1, 'another project B' (Oaxaca II) substation: - Main: MT-1011A453-01 - Backup: MT-1011A560-01 Main and backup meters are bidirectional and have 0.2% accuracy class
QA/QC procedures to be applied:	The metering equipment in 'another project B' (Oaxaca II) Substation is properly calibrated and checked annually for accuracy, as per Mexican law and/or PPA, to ensure that any error resulting from such equipment shall not exceed +/- 0.2% of full-scale rating. To guarantee

	QA/QC, double checked by invoice of electricity sales is done. Main meter, in 'another project B' (Oaxaca II) substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 14, 2011. No calibration is required until (October 13, 2012) Backup meter, in 'another project B' (Oaxaca II) substation, had been tested and calibrated by Laboratorio de Metrología LAMSE in October 14, 2011. No calibration is required until (October 13, 2012)
Calculation method:	Measured
Any comment:	The data is archived electronically. Archived data will be kept during the crediting period and two years later.

3.3 Description of the Monitoring Plan

A detailed operational and management structure for monitoring of emission reductions of the project is provided in the CDM/VCS Manual.

Monitoring plan. The project meets the applicability criteria under the monitoring methodology, ACM0002 v.12.1.0, "Consolidated methodology for grid-connected electricity generation from renewable sources" This methodology is applicable, among others, to projects that generate electricity using wind resources.

According to the applicable methodology, the data has been monitored, archived electronically and will be kept at least for 2 years after the end of the crediting period is the quantity of net electricity generation supplied by the project activity to the grid in year y. This information comes from Ixtepec substation power meter (main meter and its backup). These certified power meters are property of CFE (Comisión Federal de Electricidad, which is the state own electric utility company and responsible of the transmission system). Sales invoice cross-check have also been achieved.

The net electricity supplied to the grid by the proposed project has been calculated as follows:

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

Where:

$EG_{facility,y}$ = Net electricity supplied by the proposed project in the period y.

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

$EG_{import,y}$ = Total electricity imported from the grid by the proposed project and 'another project B' in the period y

$EG_{project,y}$ = Electricity measured by meters installed at the Oaxaca IV substation.

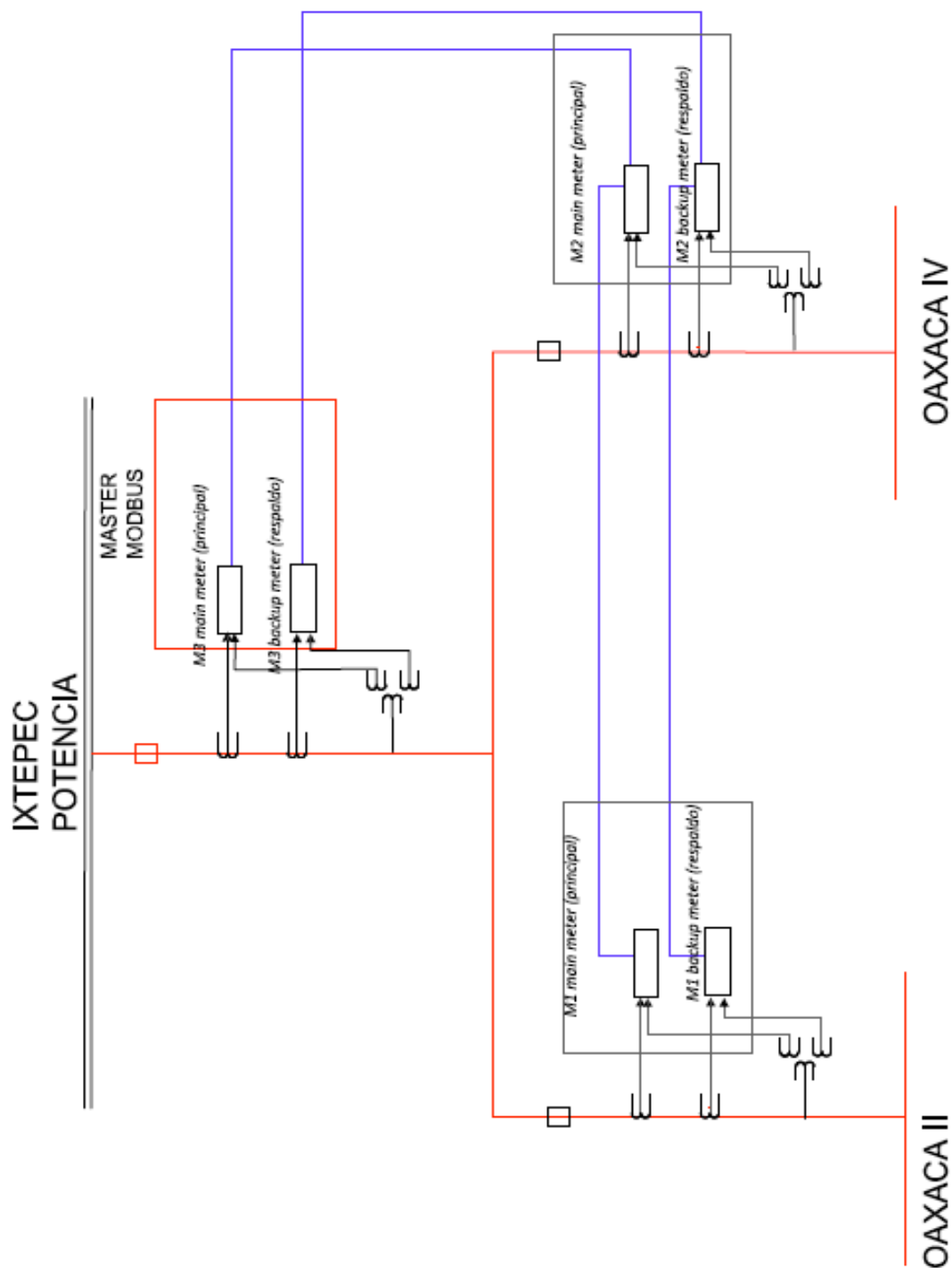
$EG_{\text{another},y}$ = Electricity measured by meters installed at 'another project B' substation that share transmission facilities with Oaxaca IV.

Parameters $EG_{\text{output},y}$, $EG_{\text{import},y}$, $EG_{\text{project},y}$ and $EG_{\text{another},y}$ in the above formula which are used to calculate $EG_{\text{facility},y}$ have been measured by electricity meters.

$EG_{\text{output},y}$ and $EG_{\text{import},y}$ have been measured by bidirectional meters M3 installed in the project substation in Ixtepec.

$EG_{\text{project},y}$ has been measured by electricity bidirectional meters M2 installed at the Oaxaca IV substation. $EG_{\text{another},y}$ has been measured by electricity bidirectional meters M1 installed at 'another project B' substation. $EG_{\text{import},y}$ is the total electricity imported from the grid by the Oaxaca IV and 'another project B' in period, to be conservative, when the $EG_{\text{facility},y}$ is calculated, $EG_{\text{import},y}$ is fully deducted including the electricity imported from the grid by 'another project B'.

Meter interconnection

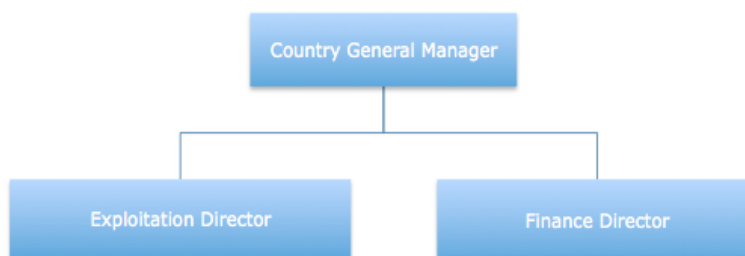


In conclusion, the determination of $EG_{\text{facility},y}$ is based on the measurement of electricity meters installed and is conservative.

For the emission reduction calculation, the following formula will be used:

Annual emission reduction = (Quantity of net electricity generation supplied by the project plant to the grid in year y) * (CO2 emission factor (Ex-ante) of the estimated baseline)

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 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 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 Farm has two CFE certified meters (1 main, 1 backup) in Ixtepec Substation, the meters in Ixtepec Substation are property of CFE.
- **Cross-check of net electricity supplied to the grid with receipt of sales:**

Net electricity supplied to the grid measured 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

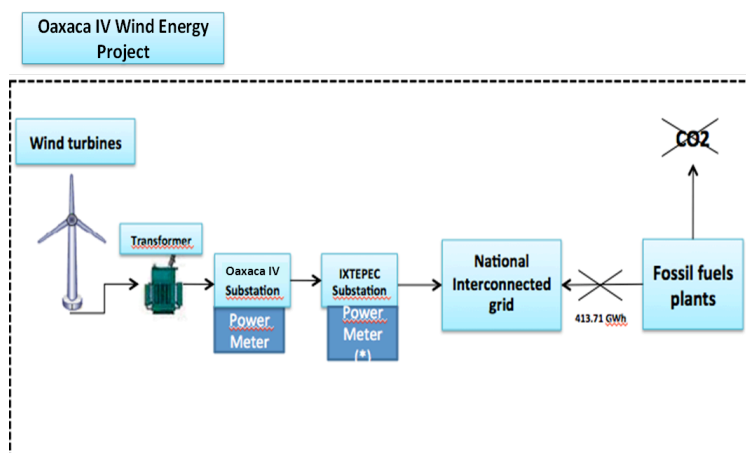
- a. Monitoring equipment is set up as per Mexican law and/or PPA.
- b. Monitoring equipment is authorized through a certificated formal process.
- c. After set up monitoring equipment is calibrated by CFE periodically as determined by the Mexican Law and/or PPA, and checked as necessary by CFE for accuracy.

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/VCS manual.

Internal audit will be done periodically as decided by management.

The Line diagram reflecting the generation until metering where the GHG calculation happens is given below:



(*) The ION meters located in the Ixtepec Substation will communicate with the ION meters from the Oaxaca IV Substation, to determine the energy provided from Oaxaca IV.

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

The emission reduction ER_y by the project activity during a given year y is the difference between baseline emissions (BE_y), project emissions (PE_y) and emissions due to leakage (L_y), as follows:

$$ER_y = BE_y - PE_y - L_y.$$

The baseline emission (BE_y in tCO_2) is calculated as the product of the baseline emissions factor (EF_y in tCO_2/MWh) multiplied by the net electricity supplied by the project activity to the grid ($EG_{facility,y}$ in MWh).

$$BE_y = EF_y * EG_{facility,y}$$

Net electricity supply to the grid ($EG_{\text{facility},y}$) is used to calculate VCUs.

Baseline emission factor (EF_y) has been calculated ex-ante and will not be updated during the crediting period of ten years. As per PDD registered, $EF_y=0.5805$.

Net electricity supplied to the grid by the project is calculated using below table.

OAXACA IV							
(MWh)	METER READINGS (***)				EG facility		
PERIOD	EG output	EG another (Oaxaca II)	EG project (Oaxaca IV)	EG import	CALCULATION EG facility	RECEIPT OF SALES	MINIMUM VALUE
NOVEMBER 2011 (*)	26.573	20.185	6.161	5	6.209	6.225	6.209
DECEMBER 2011	100.345	55.656	45.080	41	44.864	44.905	44.864
JANUARY 2012	84.055	42.308	42.449	95	42.002	42.098	42.002
FEBRUARY 2012	90.245	44.889	46.139	44	45.698	45.743	45.698
MARCH 2012	76.848	37.052	40.588	90	40.084	40.181	40.084
APRIL 2012	49.381	23.230	26.527	188	26.139	26.352	26.139
MAY 2012 (**)	16.181	8.106	8.213	150	7.994	8.151	7.994
TOTAL	443.628	231.426	215.158	613			212.990

NET ELECTRICITY	212.990	MWh
BASELINE Emission Factor	0,5805	tCO ₂ /MWh
Baseline emissions	123.640	tCO ₂

(*) Net generation from November 18th 2011

(**) Up to 15 May 2012 inclusive.

(***) To be conservative: Minimum value for EG output and EG project from main and check; Maximum value for EG import and EG another from main and check.

4.2 Project Emissions

The project involves the operation of a zero-emission wind farm, so $PE_y = 0$

4.3 Leakage

According to ACM0002, no leakage emissions are considered.

There is no leakage to this project so $L_y = 0$. Thus, $ER_y = BE_y$. i.e. the emission reductions are the baseline emissions in this project.

4.4 Summary of GHG Emission Reductions and Removals

As explained above, $ER_y = BE_y$.

Total Baseline Emissions in tCO ₂ e	Total Project Emissions in tCO ₂ e	Total Leakage in tCO ₂ e	Total Overall Emission Reductions (ER _y) tCO ₂ e
123,640	-	-	123,640

Total emission reductions during the monitoring period is 123,640 tCO₂e

5 ADDITIONAL INFORMATION

The estimated emission reductions in the PDD are calculated on an annual basis, values estimated in ex ante calculation is detailed:

Item	Values estimated in ex ante calculation of the registered CDM-PDD	Actual values reached during the monitoring period
Emission reductions (tCO ₂ e)	120,829 tCO ₂ for this period	123,640 tCO ₂ for this period

The deviation between the two values is 2.33% higher.