

# CECIC GANSU YUMEN CHANGMA NO.3 WIND FARM PROJECT



Document Prepared By CECEP Wind Power Incorporation Company.

<b>Project Title</b>	CECIC Gansu Yumen Changma No.3 Wind Farm Project
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<b>Prepared By</b>	CECEP Wind Power Incorporated Company
<b>Contact</b>	Address: 12 <sup>th</sup> Floor, A Building Jieneng Mansion, No.42 Xizhenmen North Street, Haidian District, Beijing, China 100082. Tel: +86-10-62248705 Email: <a href="mailto:shenhongshuai@gmail.com">shenhongshuai@gmail.com</a> ; <a href="http://www.cecwpc.cn">http://www.cecwpc.cn</a>

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## 1 PROJECT DETAILS

### 1.1 Summary Description of Project

CECIC Gansu Yumen Changma No.3 Wind Farm Project (hereinafter referred as “the Project” ) is located in Yumen Town, Yumen City, Gansu Province, the People's Republic of China. The purpose of the Project is to generate electricity using wind power resources in the project region and to deliver to the Northwest China Power Grid (NWPG) which is predominated by connected fossil fuel fired power plants, especially coal fired plants. So the Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants in NWPG.

The Project involves the installation of 134 wind turbines with 1.5MW capacity per unit, with a total installed capacity of 201 MW. Total of 463,714 MWh clean electricity generated by the Project are expected to be delivered to the NWPG annually. Accordingly, the Project estimated can reduce GHG emissions about 425,689 tCO<sub>2</sub> annually.

The Project started construction on 19/09/2009. The first wind turbine of the Project started commissioning on 28/01/2011. The wind farm operates normally and smoothly.

This monitoring period of the Project is from 28/01/2011 to 27/04/2011. The total emission reduction of the first monitoring period is: 65,999 tCO<sub>2</sub>e.

### 1.2 Sectoral Scope and Project Type

The Project comes under sectoral scope 1, Energy Industries renewable sources.

Project Category: Renewable electricity in grid connected applications

### 1.3 Project Proponent

CECIC Wind-power (Gansu) Co., Ltd.

### 1.4 Other Entities Involved in the Project

No other entities.

### 1.5 Project Start Date

The Project started commissioning on 28/01/2011.

### 1.6 Project Crediting Period

The Project crediting period is from 28/04/2011 to 27/04/2018.

### 1.7 Project Location

The Project site is located 18-31 km southwest of Yumen Town, Yumen City, Gansu Province in the People’ s Republic of China. It is located at Latitude from 40 ° 05’ 39” N to 40 ° 09’ 52”

N and longitude from 96° 46' 22" E to 96° 51' 57" E. The altitude of the Project site ranges from between 1690 m to 1825 m above the sea level.

### 1.8 Title and Reference of Methodology

Title: Approved consolidated baseline and monitoring methodology ACM0002: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Version 12.1), and,

The methodology also refers to the latest approved versions of the following tools:

- Tool for the demonstration and assessment of additionality (version 5.2),
- Tool to calculate the emission factor for an electricity system (version 02.1).

## 2 IMPLEMENTATION STATUS

### 2.1 Implementation Status of the Project Activity

The Project was started construction on 19/09/2009. The first wind turbine of the Project started commissioning on 28/01/2011. The electricity generated by the Project is delivered to NWPG, according to the signed power purchase agreement (PPA) with Gansu Electric Power Co., Ltd.

The wind farm operates smoothly and normally during this monitoring period. There have been no emergencies happened to the monitoring system in this monitoring period.

### 2.2 Deviations from the Monitoring Plan

Not Applicable.

### 2.3 Grouped Project

Not Applicable.

## 3 DATA AND PARAMETERS

### 3.1 Data and Parameters Available at Validation

Data Unit / Parameter:	<b>EF<sub>grid,CM,y</sub></b>
Data unit:	tCO <sub>2</sub> e/MWh
Description:	Baseline emission factor: the combined emission factor of the project grid system.
Source of data:	Source from the Section B.6 of the registered PDD for the Project.

Value applied:	0.9180
Purpose of the data:	Used for baseline emission calculations.
Any comment:	The emission factor of the Project was ex-ante determined and is fixed during the first crediting period. All data and parameters had been determined at registration.

### 3.2 Data and Parameters Monitored

Data Unit / Parameter:	<b>EG<sub>facility,y</sub></b>
Data unit:	MWh
Description:	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
Source of data:	Meter reading record of onsite main meters
Description of measurement methods and procedures to be applied:	Two sets of meters measuring continuously. Then calculate the net electricity generation supplied by the project to the grid.
Frequency of monitoring/recording:	Measuring continuously/Recording monthly
Value monitored:	Used for the baseline emission calculations.
Monitoring equipment:	See as follow table 1
QA/QC procedures to be applied:	<p>Monthly power exported and imported to the NWPGE are cross-checked against ETNs or sales receipts.</p> <p>The calibrations are done by a qualified organization at least once per year for the main meters and backup meters according to local industry standards.</p>
Calculation method:	$EG_{facility,y} = EG_{export,y} - EG_{import,y}$ <p><math>EG_{facility,y}</math> is electricity exported to the grid by the project (<math>EG_{export,y}</math>) minus electricity imported from the grid by the project (<math>EG_{import,y}</math>).</p>
Any comment:	-

**Table 1. Monitoring equipments of the Project**

Serial No.	Accuracy	Calibration date	Validity of the Calibration	Calibration frequency
57033315 Main meter	0.2s	29/11/2010	28/11/2011	Annually
57033312 Backup meter	0.2s	29/11/2010	28/11/2011	Annually

### 3.3 Description of the Monitoring Plan

The implementation of monitoring system and Management organization for the Project are fully in consistent with the description in the PDD Monitoring Plan.

#### 1. Organizational structure and responsibilities

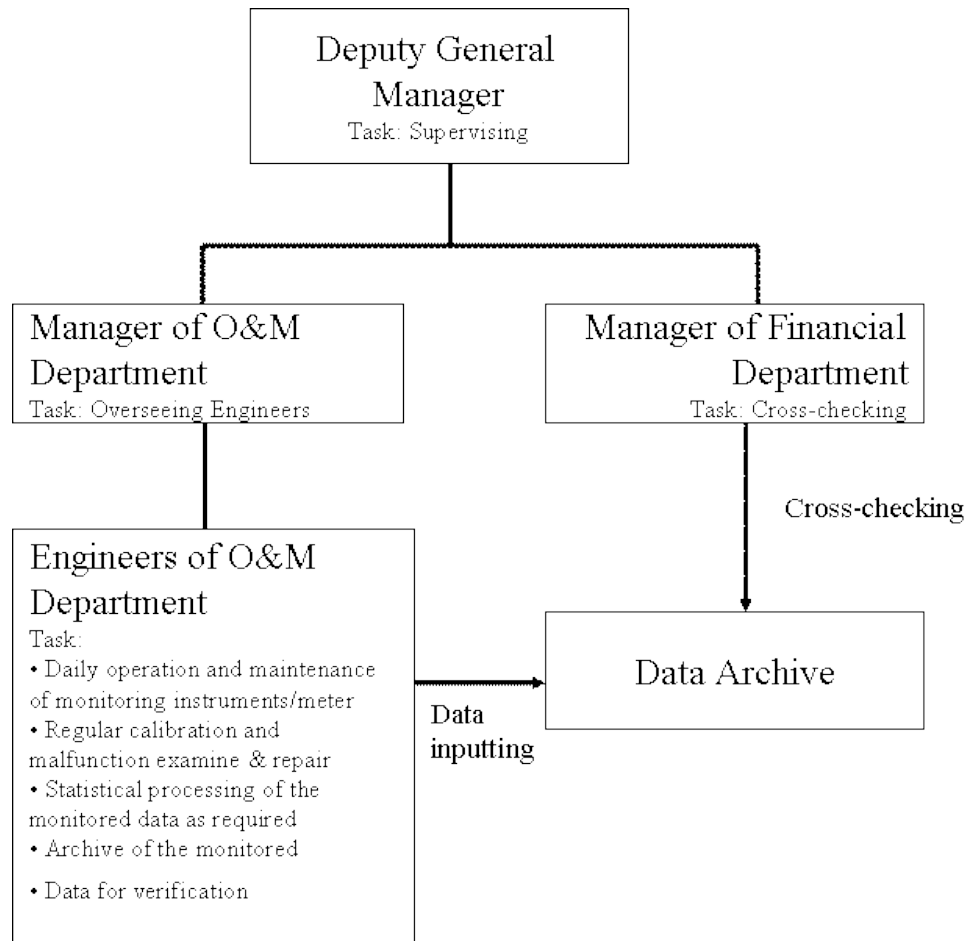
The Project owner (CECIC Wind-power (Gansu) Co., Ltd.) established a CDM Project Management Office (PMO). The roles and responsibilities of monitoring team persons from the Project owner see as follow:

Mr. Zhao Dongsheng, Deputy General Manager of the Project and also is the Manager of the Operation & Maintenance Department, is general responsible for the operation and maintenance, which includes the monitoring, of the Project. He was appointed the CDM Monitoring Manager if the PMO.

Mr. Wu Fei, etc, operators of Department of Operation & Maintenance of the Project, are responsible for the normal operation and maintenance of the monitoring meters, regular calibration and malfunction examine & repair, also responsible for the statistical treatment of the original monitoring data. Provide achieved emission reduction results for verification, and archive them in the form of document and electronic version.

Mr. Tian Dacun, Manager of Financial Department of the Project, is responsible for the cross-check via the Electricity Transaction Notes or sales receipts monthly.

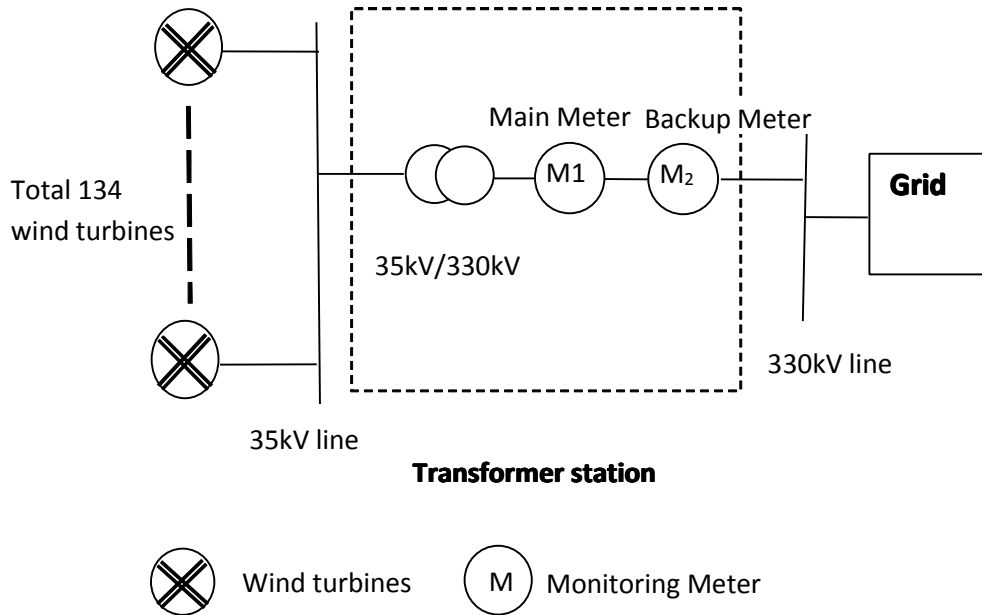
The organization structure is illustrated as follows:



**2. Data collection and management**

As described in the monitoring plan, the Project wind farm records reading monthly from the meter equipments within the Project site.

The net electricity generation of the Project was monitored through the two bi-directional meters (one is main meter, and the other is backup meter) installed at the high voltage side of 35kV/330kV booster transformer, located within the 330kV Changma West transform substation near to the Project site, recording exported to the grid by the Project and imported from the grid by the Project. The net electricity generation supplied by the Project ( $EG_{facility,y}$ ) was calculated as exports minus imports. The data was monitored continuously, and the results of reading was recorded and supplied to Grid Company monthly. The monitoring points shows below:



Designated personnel of the wind farm read and record the readings of the meters mentioned above monthly. The CDM manager of the Project wind farm checked out the reported data against with the Electricity Transaction Notes (ETN) or sale invoice before archived.

All data collected as part of monitoring was archived electronically and was kept until 2 years after the end of the total crediting period of the Project.

**Emergency Procedures**

When reading error of either meter exceeds the allowable range or any inconsistency occurs, the meter should be repaired and followed by calibration by a third part in accordance with the standard, within 10 days. The grid company must be informed before the calibration and all the record should be kept by the Project owner.

When the main meter detects the error beyond the allowable rage or inconsistency, the backup meter, located within the site, will be used. In case that both meters detect errors, the Project owner shall repair the meter, recalibrate, or replace, while giving the grid company sufficient notice to allow their representative to attend during any corrective activities. When this happen, the net power generated is calculated by read the backup meter. In case where both meters fail, the both parties should formulate reasonable and conservative estimation based on historical or the nearest month power generation data. Also, the Project owner should provide the evidence to testify the method is reasonable and conservative.

**4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS**

#### 4.1 Baseline Emissions

According to ACM0002 and the registered PDD of the Project, The baseline emission BE<sub>y</sub> during the monitoring period results from:

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

$$EG_{\text{facility},y} = EG_{\text{export},y} - EG_{\text{import},y}$$

Where:

BE<sub>y</sub> is the baseline emissions of the Project;

EF<sub>grid,CM,y</sub> is the combined margin baseline emission factor of the NCPG;

EG<sub>facility,y</sub> is the net electricity supplied to the grid by the Project;

EG<sub>export,y</sub> is the quantity of electricity exported to the grid by the Project;

EG<sub>import,y</sub> is the quantity of electricity imported from the grid by the Project.

The monthly electricity data is listed in following table 2:

**Table2. Calculation of the net electricity supplied to the grid by the Project**

Period	Electricity exported to the grid by the Project EG <sub>export,y</sub> (MWh)	Electricity imported from the grid by the Project EG <sub>import,y</sub> (MWh)	Net electricity supplied to the grid by the Project EG <sub>facility,y</sub> (MWh)
	A	B	EG <sub>export,y</sub> minus EG <sub>import,y</sub> C=A-B
28/01/2011-26/02/2011	18,406.080	60.720	18,345.360
27/02/2011-29/03/2011	21,832.800	36.960	21,795.840
30/03/2011-27/04/2011	31,775.040	21.120	31,753.920
<b>Total</b>	<b>72,013.920</b>	<b>118.800</b>	<b>71,895.120</b>

*Note: \* For a conservative calculation, the data in the column of electricity imported from the grid by the Project (EG<sub>import,y</sub>) is the total amount of electricity imported from the grid by the Project from 28/01/2011 to 28/04/2011.*

*The data in this table has been double checked with the Electricity Transaction Notes (ETNs).*

The baseline emission during this monitoring period calculated as following:

$$\begin{aligned}
 BE_y &= EG_{\text{facility},y} \times EF_{\text{grid,CM},y} \\
 &= 71,895.120 \text{ MWh} \times 0.9180 \text{ tCO}_2\text{e/MWh} \\
 &= 65,999 \text{ tCO}_2\text{e}
 \end{aligned}$$

#### 4.2 Project Emissions

Project emission ( $PE_y$ ) is 0 tCO<sub>2</sub>e as per the registered PDD.

#### 4.3 Leakage

Leakage ( $L_y$ ) is 0 tCO<sub>2</sub>e as per the registered PDD.

#### 4.4 Summary of GHG Emission Reductions and Removals

The total Emission Reduction ( $ER_y$ ) during this monitoring period is calculated as follow:

$$ER_y = BE_y - PE_y - L_y = 65,999 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} = 65,999 \text{ tCO}_2\text{e}$$

### 5 ADDITIONAL INFORMATION

The actual emission reductions during this monitoring period are 65,999 tCO<sub>2</sub>e, which is less than the estimated value in the registered PDD. There is no any significant increase compared with the estimated emission reduction in the registered PDD.

**Annex 1 Clarification of the Sections 1.2, 1.3, 1.5 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description template**

The proposed project was registered as CDM project on 28 April 2011 and the reference number is 4734. As VCS Version 3.0 came into force on 8 September 2011, the pre-CDM VER shall be verified against the VCS version 3 in terms of the VCS version 3. This clarification is annexed to cover all the requirements set out in the VCS version 3 for project validation together with the UNFCCC registered PDD (Version 10.2, April 20, 2011), according to the Policy Announcement from the VCS Association.. (<http://www.v-c-s.org/documents.html>)

Clarification of the Sections 1.2, 1.3, 1.5 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4 and 1.13 of the VCS Project Description template:

**1.2 Sectoral Scope and Project Type**

Clarification: The Project comes under sectoral scope 1, Energy Industries renewable sources.

Project Category: Renewable electricity in grid connected applications

**1.3 Project Proponent**

Clarification: CECIC Wind-power (Gansu) Co., Ltd.

**1.5 Project Start Date.**

Clarification: The Project started commissioning on 28/01/2011.

**1.6 Project Crediting Period.**

Clarification: The Project crediting period is from 28/04/2011 to 27/04/2018.

**1.7 Project Scale and Estimated GHG Emission Reductions or Removals.**

Clarification:

Project	√
Mega-project	

Years	Estimated GHG emission reductions or removals (tCO2e)
May 2011-April 2012	425,689
May 2012-April 2013	425,689
May 2013-April 2014	425,689
May 2014-April 2015	425,689

May 2015-April 2016	425,689
May 2016-April 2017	425,689
May 2017-April 2018	425,689
Total estimated ERs	2,979,823
Total number of crediting years	7
Average annual ERs	425,689

**1.9 Project Location**

The Project site is located 18-31 km southwest of Yumen Town, Yumen City, Gansu Province in the People’s Republic of China. It is located at Latitude from 40 ° 05’ 39’’ N to 40° 09’ 52’’ N and longitude from 96° 46’ 22’’ E to 96° 51’ 57’’ E. The altitude of the Project site ranges from between 1690 m to 1825 m above the sea level.

**1.10 Conditions Prior to Project Initiation.**

Clarification: Prior to the Project initiation, the electricity in the area of NWPG mainly supplied by the fossil fuel fired power plants, especially coal fired plants. The purpose of the Project is to generate electricity using wind power resources in the project region and to deliver to the Northwest China Power Grid (NWPG) .So the Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants in NWPG.

**1.12.1 Proof of Title**

Clarification: Evidence of proof of title has been demonstrated via documentation proving ownership of the plant and equipment at the site. The owner has also obtained all relevant permits for to the proposed project including a Business License, FSR (Feasibility Study Report) approval, LoA and PPA. The project’s design and implementation has been carried out in compliance with all relevant and national legislation in China.

**1.12.2 Emissions Trading Programs and Other Binding Limits**

Clarification: The project is not included in an emissions trading program except for that registered as CDM project, and does not take place in a jurisdiction or sector in which binding limits are established on GHG emissions.

**1.12.3 Participation under Other GHG Programs**

Clarification: The project does not participate in an emissions trading program, so this clause is not applicable.

**1.12.4 Other Forms of Environmental Credit**

Clarification: The project is located in China and is developed and operated by CECIC Wind-power (Gansu) Co., Ltd. The project is just purely registered as CDM project. There is no other environmental

credit (for example renewable energy certificate) which has or will be produced by or obtained for the project during this monitoring period.

### **1.13 Additional Information Relevant to the Project**

#### **Eligibility Criteria**

This project is wind farm project, a renewable energy project.

#### **Leakage Management**

There no leakage in the project.

#### **Commercially Sensitive Information**

N/A

#### **Further Information**

No further information.