

**MONITORING REPORT FORM (F-CDM-MR)**
Version 02.0**MONITORING REPORT**

Title of the project activity	CECIC Gansu Yumen Changma No.3 Wind Farm Project
Reference number of the project activity	4734
Version number of the monitoring report	Version 01
Completion date of the monitoring report	01/01/2013
Registration date of the project activity	28/04/2011
Monitoring period number and duration of this monitoring period	4th monitoring period (29/09/2012-31/12/2012, both days inclusive)
Project participant(s)	CECIC Wind-power (Gansu) Co., Ltd. P.R.China (host); Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. Japan; EnBW Trading GmbH, United Kingdom of Great Britain and Northern Ireland.
Host Party(ies)	P.R.China
Sectoral scope(s) and applied methodology(ies)	Sectoral scope1, Energy Industries (renewable sources). Approved Consolidated Methodology ACM0002, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, Version 12.3.0
Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD	109,629 tCO ₂ e
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	95,841 tCO ₂ e

**SECTION A. Description of project activity****A.1. Purpose and general description of project activity**

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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. Totally 463,714 MWh of clean electricity generated by the Project are expected to be delivered to the NWPG annually.

The Project started construction on 19/09/2009. The first wind turbine of the Project commissioning started on 28/01/2011. The Project started fully commissioning on 23/10/2012.

This monitoring period of the Project is from 29/09/2012 to 31/12/2012. The total emission reduction of the 4th monitoring period is: 95,841 tCO₂e.

A.2. Location of project activity

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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 N 40°05'39" to N 40°09'52" and Longitude from E 96°46'22" to E 96°51'57". The altitude of the Project site ranges from between 1690 m to 1825 m above the sea level. More details shown as follow figure 1.

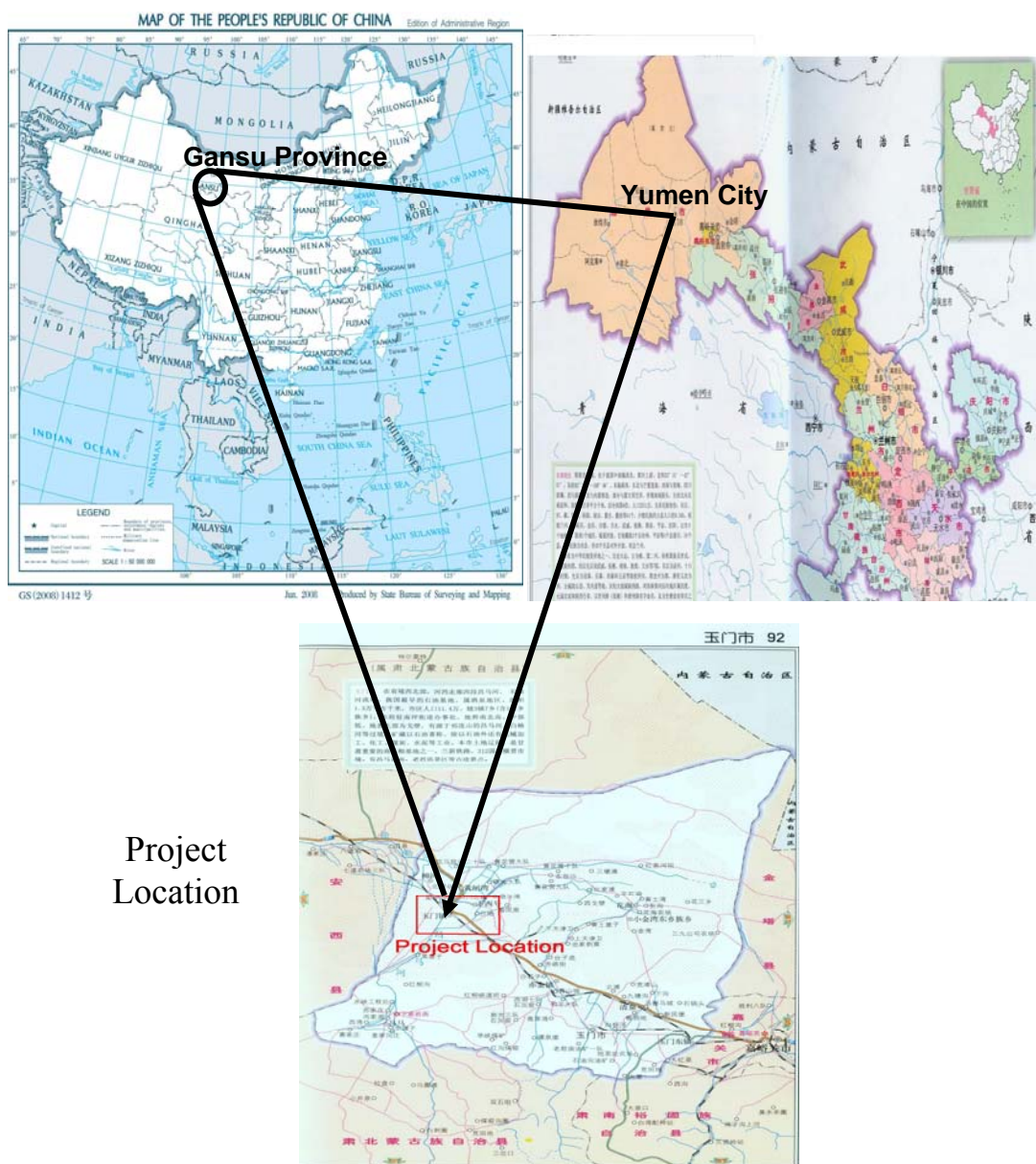


Figure1. Location of the Project

A.3. Parties and project participant(s)

Party involved (host) indicates a host Party)	Private and/or public entity(ies) project participants (as applicable)	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
P.R.China (Host)	CECIC Wind-power (Gansu) Co., Ltd.	No
United Kingdom of Great Britain and Northern Ireland	EnBW Trading GmbH	No
Japan	Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.	No

A.4. Reference of applied methodology

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The approved methodology and tool applied to the Project is:

Approved consolidated baseline and monitoring methodology ACM0002: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” (Version 12.3.0);
“Tool for the demonstration and assessment of additionality” (Version 05.2);
“Tool to calculate the emission factor for an electricity system” (version 02.1.0)

Reference: UNFCCC website:

<http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L>

A.5. Crediting period of project activity

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The Project employs the renewable crediting period (3×7yrs), the first crediting period of the project is changed from 01/07/2011-30/06/2018 to 28/04/2011-27/04/2018.

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity

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The Project started construction on 19/09/2009. The first wind turbine of the Project commissioning started on 28/01/2011. The Project started fully commissioning on 23/10/2012. The electricity generated by the Project is delivered to NWPG.

During this monitoring period, the Project is operated and implemented smoothly. There have been no emergencies (including of overhaul times, downtimes of equipment, exchange of equipment, etc.) happened to the monitoring system in this monitoring period, also no events or situations occurred during the monitoring period, which may impact the applicability of the methodology.

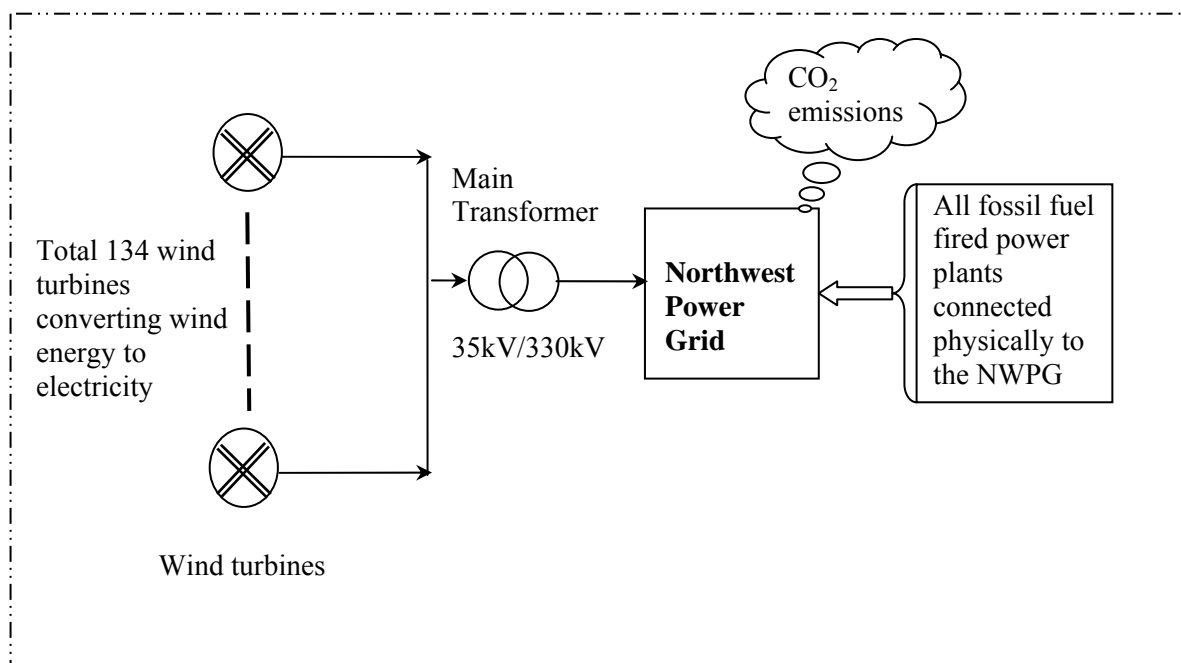
Total 134 sets of wind power turbine and generators with 1.5MW unit capacity each, are installed in the Project, forming 201MW of total capacity. These wind turbines are manufactured by China’s Dongfang Steam Turbine Co., Ltd and the model type of these wind turbines is FD82A-1500/11. The main technology parameter of this type of wind power turbine can be found at Table1, which is in line with the specification made in the PDD.

Table1 Technology parameter of WTGs for the Project

Key Technology Parameter	FD82A-1500/11
Rated capacity (kW)	1500
Number of unit	134
Turbine diameter (m)	82
Hub height (m)	70
Cut in wind speed (m/s)	3.0
Rated wind speed (m/s)	11
Cut out wind speed (m/s)	20.0
Wind speed limit (m/s)	52.5
Operating temperature (°C)	-20~+40
Number of blades	3
Output Voltage (V)	690
Technical lifetime (y)	20

The electricity generated by the Project is exported to the local Yumen town grid via a newly built 35kV/330kV transformer station, which is then exported to the NWPG.

The technical process in the Project can be shown as following diagram:



B.2. Post registration changes

B.2.1. Temporary deviations from registered monitoring plan or applied methodology

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There are no any temporary deviations have been applied during this monitoring period.

B.2.2. Corrections

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There are some corrections with the registered PDD to improve the accuracy of information provided and consistency while revised the monitoring plan during the second monitoring period of this project. The revised PDD which contain both the revised monitoring plan and corrections was approved on 23/10/2012. More detail, please refer to the approved revised PDD.

There are no any further corrections to project information or parameters fixed at validation have been approved during this 4th monitoring period or submitted with this monitoring report.

B.2.3. Permanent changes from registered monitoring plan or applied methodology

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The registered monitoring plan was revised due to some permanent changes with the monitoring plan during second monitoring period of this project. And the revised monitoring plan was approved by EB on 23/10/2012.

There are no any further permanent changes from the registered monitoring plan or applied methodologies have been approved during this 4th monitoring period or submitted with this monitoring report.

B.2.4. Changes to project design of registered project activity

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There are no any changes to the project design of the project activity have been approved during this monitoring period or submitted with this monitoring report.

B.2.5. Changes to start date of crediting period

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The first crediting period of the project was changed from 01/07/2011-30/06/2018 to 28/04/2011-27/04/2018.

B.2.6. Types of changes specific to afforestation or reforestation project activity

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Not Applicable

SECTION C. Description of monitoring system

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The implementation of monitoring system and Management organization for the Project are fully consistent with the description in the revised Monitoring Plan which was approved by EB on 23/10/2012.

1. Data collection and management

The electricity generated by the Project feeds to the Changma west 35kV/330kV substation through ten 35kV transmission lines, then to NWPG after 35kV/330kV transformer. The Quantity of net electricity generation supplied by the project plant/unit to the grid ($EG_{\text{facility},y}$) is continuous monitored through the ten bi-directional meters installed at the 35kV side of 35kV/330kV transformer. All of the meters can record the electricity exported to the grid by the Project and the electricity imported from the grid by the Project. The electricity exported to the grid by the Project is the sum of values measured by the ten meters for exported electricity. Meanwhile, electricity imported from the grid by the Project is the sum of values measured by the ten meters for imported electricity. The electricity output and input of other current and any future projects which share the same Gateway Meter with the Project, can be measured directly by their own meters. The Gateway Meter can obtain the total electricity output and input by these projects. The cut off time is the 00:00 of the penultimate day of each month. Designated personnel of the grid company read and record the readings monthly, then inform the reading to the project company for confirmation. Meanwhile, the staff of the Project company reads and records the meters readings through telecommunication system, too.

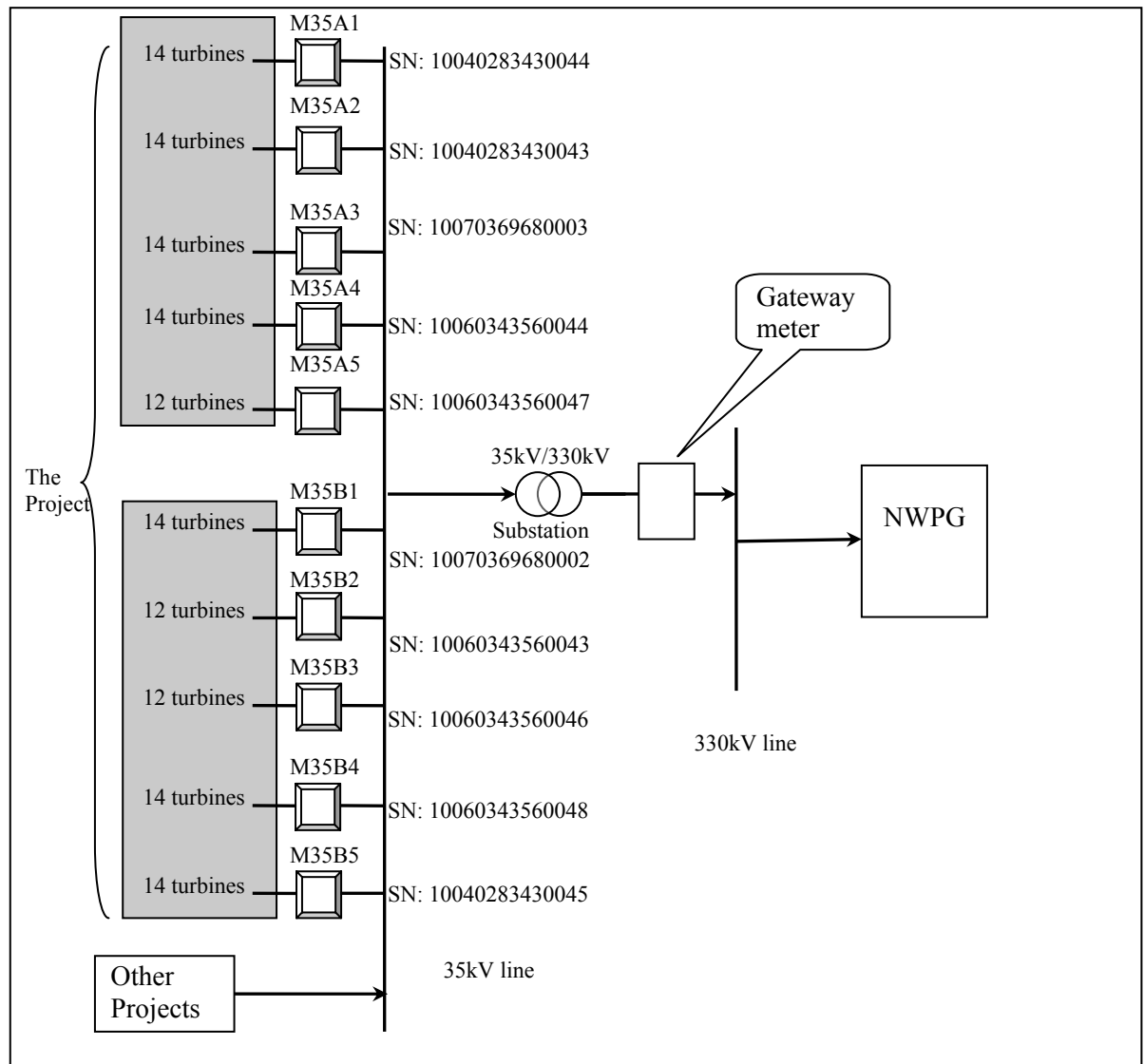
Based on the readings of the meters at the 35kV side of the 35kV/330kV transformer, the gateway meter at the 330kV side of the 35kV/330kV transformer, consider of the transmission and line loss, the electricity exported to the grid by the Project and the electricity imported from the grid by the Project are calculated by the grid company according to the approach defined in the PPA. After both sides confirming, the Electricity Transaction Notes (ETNs) for the electricity exported to the grid by the Project and the electricity imported from the grid by the Project are issued separately by the grid company in the end of each month. After confirming the numbers on the ETNs, the wind farm company issues sales invoices for the electricity exported to the grid by the Project to the grid company on a monthly basis. And the grid company would have issued sales invoice for the electricity imported from the grid by the Project on a monthly basis, but the sales invoice of the electricity imported from the grid by the Project are still not issued until now due to the small quantity of electricity imported during this monitoring period. Both the ETNs and the sales invoice are serves as sales receipts. The CDM manager of the Project wind farm counter-checked the reported data against with the sales receipts before archived. The most conservative values have been selected for the ERs calculation. The electricity imported from the grid by the Project has been deducted from the electricity exported to the grid by the Project to get the quantity of the net electricity supplied to the grid by the Project.

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

2. Meters Distribution

More details for the distribution of metering equipments installation and monitoring points can be found at following figure2.

Figure2. The distribution of meters installation



3. Meters Calibrations

The metering equipments are calibrated and checked at least annually in accordance with related regulations and rules. Calibration is carried out by authorized and qualified calibration entity. The calibration record of the electricity measure-related meters can be found at Table2.

**Table2. Calibration record of the meters**

No.	Type	SN	Accuracy class	Required Calibration frequency	Calibration date	Calibration due on	Calibrated by
M35A1	Electric meter	10040283430044	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35A2	Electric meter	10040283430043	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35A3	Electric meter	10070369680003	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35A4	Electric meter	10060343560044	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35A5	Electric meter	10060343560047	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35B1	Electric meter	10070369680002	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35B2	Electric meter	10060343560043	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35B3	Electric meter	10060343560046	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35B4	Electric meter	10060343560048	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
M35B5	Electric meter	10040283430045	0.5s	Annually	28/03/2012	27/03/2013	Metrological Centre of Jiayuguan Power Supply Corporation
Gateway meter (Main meter)	Electric meter	57033315	0.2s	Annually	31/03/2012	30/03/2013	Electric Energy Measurement Centre of Gansu Electric Power Corporation
Gateway meter (Backup meter)	Electric meter	57033312	0.2s	Annually	31/03/2012	30/03/2013	Electric Energy Measurement Centre of Gansu Electric Power Corporation

4. 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:

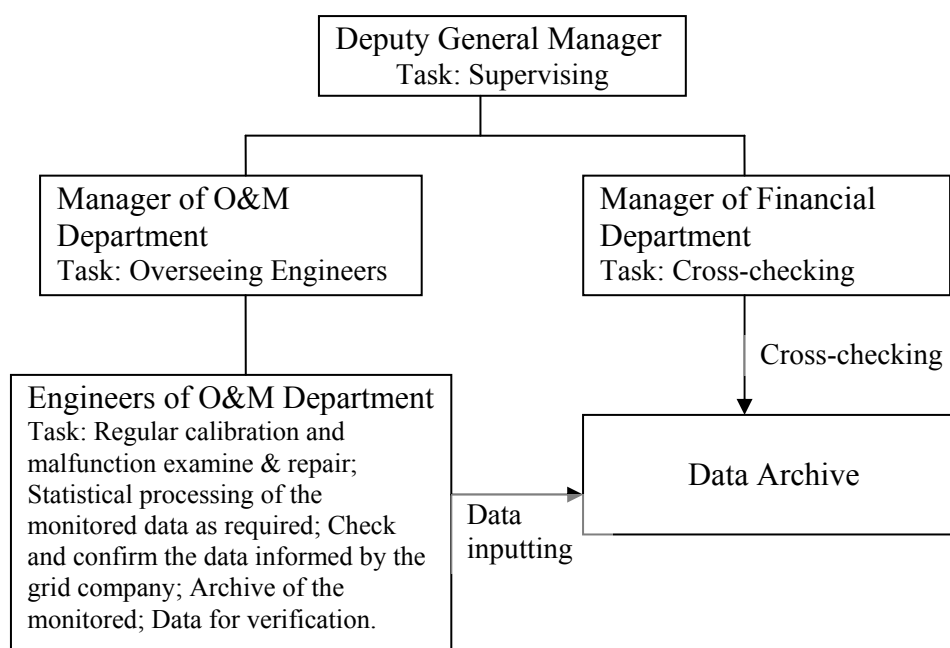
Mr. Zhao Dongsheng, Vice General Manager is responsible for operation and maintenance as well as monitoring of the Project.

Under supervision of the Vice General Manger, Operation & Maintenance Department conducts following tasks.

- Regular calibration (which has been done by qualified third party) and malfunction examine and repair;
- Statistical processing of the measured data;
- Check and confirm the data informed by the grid company;
- Achieve measured data for verification.

The data was cross-checked via the sales receipts and other relevant records monthly.

The organization structure is illustrated as follows:



5. Emergency Procedures

When reading error of any meter exceeds the allowable range or any inconsistency occurs, the meter should be repaired and followed by calibration by a third party in accordance with the standard, within 10 days. The grid company shall inform the project company before the calibration and all the record should be kept by the project company.

When any meter detects the error beyond the allowable range or inconsistency, the grid company shall repair the meter, recalibrate, or replace, while giving the project company sufficient notice to allow their representative to attend during any corrective activities. When it happens, the electricity will be calculated and estimated by the project company and the grid company using a reasonable and conservative method, based on the reading of gateway meter and other projects meters, and historical generation data. Also, the project owner should provide the evidence to testify whether the method is reasonable and conservative.

The Project is operated and implemented smoothly during this monitoring period. There have been no emergencies happened to the monitoring system, also no events or situations occurred during the monitoring period.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Data/Parameter	EF_{grid,CM,y}
Unit	tCO ₂ 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(s) applied	0.9180
Purpose of data	Calculation of baseline emissions.
Additional 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.

D.2. Data and parameters monitored

Data/Parameter	EG_{facility,y}
Unit	MWh
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
Measured/Calculated/Default	Measured
Source of data	Meter reading records of onsite meters.
Value(s) of monitored parameter	The quantity of net electricity generation supplied by the Project plant/unit to the grid during this monitoring period is 104,402.430 MWh. The electricity exported to the grid by the Project is 104,555.010 MWh, and the electricity imported from the grid by the Project is 152.580 MWh.
Monitoring equipment	More detail, please refer to Section C table2.
Measuring/Reading/Recording frequency	Measuring continuously/Reading monthly/Recording monthly
Calculation method (if applicable)	-
QA/QC procedures	Monthly power exported and imported to the NWPG are cross-checked against the sales receipts. Based on the standard of DL/T448-2000, the calibrations are done by a qualified organization at least once per year for the monitoring meters.
Purpose of data	Calculation of baseline emissions.
Additional comment	-

D.3. Implementation of sampling plan

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Not Applicable

SECTION E. Calculation of emission reductions or GHG removals by sinks**E.1. Calculation of baseline emissions or baseline net GHG removals by sinks**

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According to ACM0002 and the registered PDD of the Project, The baseline emission BE_y during the monitoring period results from:

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

The Project is the installation of a new grid-connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the Project. So,:

$$EG_{PJ,y} = EG_{facility,y}$$

Accordingly,

$$\begin{aligned} BE_y &= EG_{PJ,y} \times EF_{grid,CM,y} \\ &= EG_{facility,y} \times EF_{grid,CM,y} \end{aligned}$$

Where:

BE_y is the baseline emissions in year y (tCO_2/yr);

$EG_{PJ,y}$ is the quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr);

$EF_{grid,CM,y}$ is the combined margin baseline emission factor of the NWPG;

$EG_{facility,y}$ is the quantity of net electricity generation supplied by the Project plant/unit to the grid in year y (MWh/yr)..

The monthly electricity data is listed in following table3:

**Table3. Calculation of the quantity of net electricity supplied to the grid by the Project**

Period	Electricity exported to the grid by the Project			Electricity imported from the grid by the Project			EG _{facility,y}
	data from meter readings	data from the sales receipts	data used to calculate the ER	data from meter readings	data from the sales receipts	data used to calculate the ER	
	A	B*	C=MIN(A,B)	D	E**	F=MAX(D,E)	G=C-F
29/09/2012-29/10/2012	31,122.000	31,053.910	31,053.910	23.100	29.040	29.040	31,024.870
30/10/2012-28/11/2012	34,893.600	34,834.000	34,834.000	42.000	50.160	50.160	34,783.840
29/11/2012-29/12/2012	35,357.700	35,263.000	35,263.000	63.000	71.280	71.280	35,191.720
30/12/2012-31/12/2012	3,404.100	3,404.100	3,404.100	2.100	2.100	2.100	3,402.000
Total	104,777.400	104,555.010	104,555.010	130.200	152.580	152.580	104,402.430

Note: *The monthly value in the column of data from the sales receipts for electricity exported to the grid by the Project, are calculated by grid company based on the description in the agreed PPA consider of the transmission and line loss, which is lower than the value in the column of data from meter readings.

* * The monthly value in the column of data from the sales receipts for electricity imported from the grid by the Project, are the total electricity imported from the grid by the Project and other projects (for this monitoring period only including one Solar PV project) which sharing same gateway meter, which is higher than the value in the column of data from meter readings. For conservative, these values are used for ER calculation instead.

The data in this table has been counter-checked against with the sales receipts.

The baseline emission during this monitoring period calculated as following:

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

Table4. Baseline emissions

Period	EG _{facility,y} (MWh)	EF _{grid,CM,y} (tCO ₂ e/MWh)	BE _y (tCO ₂ e)
29/09/2012- 31/12/2012	104,402.430	0.9180	95,841

E.2. Calculation of project emissions or actual net GHG removals by sinks

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Project emission (PE_y) is 0 tCO₂e as per the registered PDD.

E.3. Calculation of leakage

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Leakage (L_y) is 0 tCO₂e as per the registered PDD.

E.4. Summary of calculation of emission reductions or net anthropogenic GHG removals by sinks

Time Period	Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e)	Project emissions or actual net GHG removals by sinks (tCO ₂ e)	Leakage (tCO ₂ e)	Emission reductions or net anthropogenic GHG removals by sinks (tCO ₂ e)
Total (29/09/2012- 31/12/2012)	95,841	0	0	95,841

E.5. Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

The estimated annual emission reduction in the registered PDD is 425,689 tCO₂e which is equals to 1,166.2712 tCO₂e per day. So, the estimated emission reduction is 109,629 tCO₂e in 94 days (total days of this monitoring period) based on the registered PDD. The actual emission reductions of the Project during this period are 95,841 tCO₂e.

Item	Values estimated in ex-ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (tCO₂e)	109,629 ¹	95,841

E.6. Remarks on difference from estimated value in registered PDD

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The actual emission reductions during this monitoring period are 95,841 tCO₂e, which is 12.58% 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.

¹ 109,629 tCO₂e = 425,689 tCO₂e * (94days/365days)

**History of the Monitoring Report**

Version	Date	Nature of revision
01	01/01/2013	Initial adoption.

History of the document

Version	Date	Nature of revision
02.0	EB 66 13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01	EB 54, Annex 34 28 May 2010	Initial adoption.
Decision Class: Regulatory Document Type: Form Business Function: Issuance		