

INNER MONGOLIA CHIFENG GAOFENG WIND POWER PROJECT

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1 PROJECT DETAILS

1.1 Summary Description of Project

Inner Mongolia Chifeng Gaofeng Wind Power Project, (hereafter referred as the project) is located in Songshan District, Chifeng City, Inner Mongolia Autonomous Region, China. Totally 25 sets of 2000kW wind turbines (Vestas V80-2000kW of Denmark) has been installed, providing a total capacity of 50MW. It is estimated the power supplied would be 131,700 MW annually and achieve amount of 150,915 tCO₂e emission reduction every year as per registered PDD. The purpose of the project is to generate power by wind and supply it to Northeast China Power Grid (NEPG).

The Project started construction on 25/08/2007. The first wind turbine of the Project started commissioning on 11/12/2008. The wind farm operates normally and smoothly. The project was registered as a CDM project on 25/10/2010.

This monitoring period of the Project is from 11/12/2008 to 24/10/2010. The total emission reduction of the first monitoring period is: **242,778 tCO₂e**.

1.2 Sectoral Scope and Project Type

The project is not a grouped project.

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

Project Category: Renewable electricity in grid connected applications

1.3 Project Proponent

Project Proponent	Chifeng Xinsheng Wind Power Co., Ltd
Attention	Wang Zhewei
Title	Project manager
Direct Tel	0451 51919055
Email address	wangzhewei@clypg.com.cn

1.4 Other Entities Involved in the Project

No other entities.

1.5 Project Start Date

The Project Start Date is 11/12/2008, when it started commissioning

1.6 Project Crediting Period

The Project crediting period is from 11/12/2008 to 24/10/2010, covering 3 years

1.7 Project Location

The proposed project is located in Wengniute County, East Inner Mongolia, its geographical coordinates are north latitude 42°23'02"N, and east longitude 118°43'26"E, its altitude is about 1601m.

1.8 Title and Reference of Methodology

Title: Approved consolidated baseline and monitoring methodology ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources"- ACM 0002 (Version 10)

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

- ◆ Tool to calculate the emission factor for an electricity system (Version 02);
- ◆ Tool for the demonstration and assessment of additionality (Version 5.2).

2 IMPLEMENTATION STATUS

2.1 Implementation Status of the Project Activity

The Project was started construction on 25/08/2007. The first wind turbine of the Project started commissioning on 11/12/2008. The electricity generated by the Project is delivered to NEPG.

2.2 Deviations from the Monitoring Plan

NA

2.3 Grouped Project

NA

3 DATA AND PARAMETERS

3.1 Data and Parameters Available at Validation

Data Unit / Parameter:	$EF_{grid,CM,y}$
Data unit:	t CO ₂ e/MWh
Description:	Baseline emission factor in the year y
Source of data:	Registered PDD
Value applied:	1.1459
Purpose of the data:	Baseline emission calculations.
Any comment:	The emission factor of the project ($EF_{grid,CM,y}$) is ex-ante determined and is fixed during the first crediting period.

3.2 Data and Parameters Monitored

Data Unit / Parameter:	EG_y
Data unit:	MWh
Description:	Net electricity supplied by the project activity to the grid during the year y
Source of data:	Project activity site
Description of measurement methods and procedures to be applied:	The meter (accuracy degree is not less than 0.5) is installed at the transformer station, which measures the electricity supplied to the grid. The meter has two-way metering and can record exports to the grid and imports from the grid. The readings of electricity meter will be hourly measured and monthly recorded. Data will be archived for 2 years following the end of the

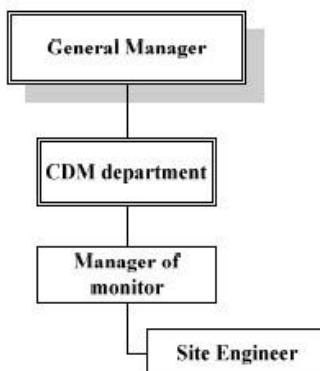
	crediting period by means of electronic and paper backup. The metering equipment will be properly configured and checked annually according to the requirement from Technical administrative code of electric energy metering (DL/T448 — 2000). The monitoring personnel of the project owner are responsible for reading and calibration of the meter, recording of the readings, and reporting of readings.
Frequency of monitoring/recording:	Measuring continuously/Recording monthly
Value monitored:	211,867.393
Monitoring equipment:	See as follow table 1
QA/QC procedures to be applied:	Continuously measured and monthly recorded.
Calculation method:	$EG_{facility,y} = E_{export,y} - E_{import,y}$
Any comment:	The designated personnel are responsible for recording the data. Sales receipts of the project will also be obtained for cross check

3.3 Description of the Monitoring Plan

This monitoring plan assures the completeness, consistency, and accuracy of monitoring and calculation of emission reductions of project activity during the crediting period. The project owner has assigned special persons for this process, with cooperation of the power grid.

1. Monitoring structure

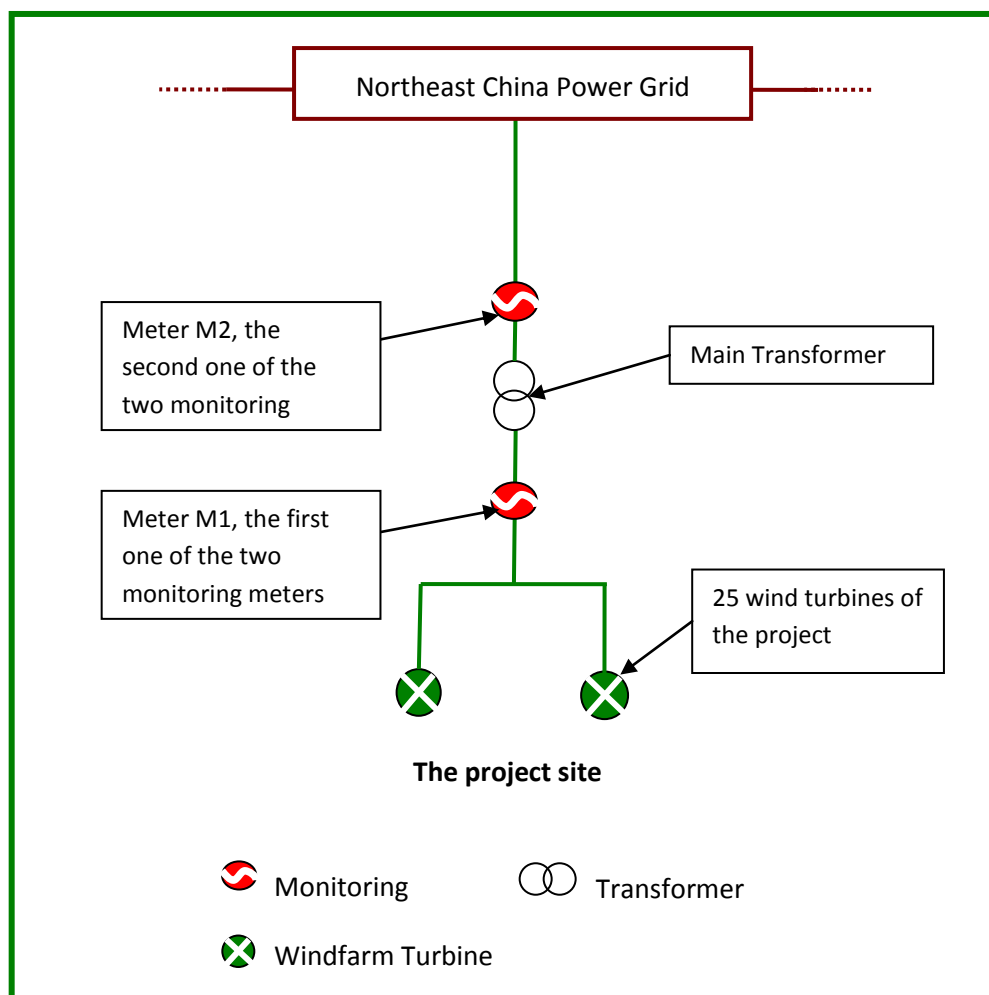
The Management Group consists of professional staff authorized by the owner of the proposed project, i.e. Chifeng Xinsheng Wind Power Co., Ltd. The management structure is illustrated as follows:



The general manager makes the overall policy decision while the CDM department is responsible for the concrete implementation of the Monitoring Plan. The monitor manager is responsible for supervising and checking the whole data record process and the calibration of meters. Another main task of the monitor manager is facilitating the verification through providing the DOE with all required necessary information. The site engineer will collect monitoring data (e.g. electric meter data), keep receipt of sales, calculate emission reduction and prepare the monitor report. Before the start of the monitor, all members in the CDM department should have received well training on CDM issues.

2. Data Monitoring

The monitoring methodology in this report refers to the CDM monitoring methodology ACM0002 (version 10) – “Consolidated methodology for grid-connected electricity generation from renewable sources”. In keeping with the monitoring methodology, the following parameter needs to be monitored for the project:



The total electricity delivered to the grid by the project (EG_y) is continuously measured and monthly recorded. The local Electric Power Company issues the sales receipt monthly which would crosscheck the monthly recording data. According to the requirement of local grid company, the meter readings for the sales receipt would be recorded on 24:00 of the last day of every month.

Electricity exported to the grid by the project ($EG_{\text{export},y}$) and Electricity imported from the grid by the project ($EG_{\text{import},y}$) are continuously measured and monthly recorded, the local Electric Power Company issues the sales receipt monthly which would crosscheck the monthly recording data. The meter readings for the **sales receipt** of electricity would be recorded on 24:00 of the last day of each month.

3. Data Management System

Calibration is performed by authorized and qualified calibration entity. Both the meter M1 and M2 were calibrated by Northeast Electric Power Research Institute Co., Ltd. Following is the information of the calibration of meter M1 and M2:

Table 1. Monitoring Equipments of the Project

Meter	Serial number	Calibrate Date	Validity	Accuracy	Calibration Frequency	Calibration Entity
M1	20070767010229	25/11/2008 25/07/2009 25/07/2010	yes	0.5s	Annually	Northeast Electric Power Research Institute Co.,Ltd
Main meter M2	94348631	25/11/2008 25/07/2009 25/07/2010	yes	0.2s	Annually	Northeast Electric Power Research Institute Co., Ltd

In order to facilitate verification, all data relevant to monitoring have been carefully kept and stored by the project owner.

4. Monitoring Practice and Handling of Emergency

The meter M1 and M2 are both bidirectional meter, and were installed to directly monitor the electricity exported to and imported from the power grid. The readings of the two meters in the loops are measured hourly and then recorded monthly at the end of each month. The net electricity supplied by the project activity to the grid is the electricity exported to the power grid by the project minus the electricity imported from the power grid by the project.

If the project owner or the local Electric Power Company finds any reading of the Meters more than the allowable error or the monitoring equipment functions improperly, it should inform the other party immediately. The project owner and the local Power Grid Company should retain a qualified measure institute together to check the meters or equipment, solve the problems and get everything into normal condition; In the mean time, both sides shall jointly prepare an acceptable estimation method according to Regulations and Rules of Power Supply issued by State Electricity Regulatory Commission of China to calculate the electricity exported to the Grid, and provide evidence to DOE for the verification to show the estimation is reasonable and conservative.

For the handling of disputes between the proposed project owner and the Grid, measures will be adopted according to relevant articles of Interim Measures for Settlement of Electricity Charges between the Power Generating Enterprises and the Grid Enterprises³³ issued by State Electricity Regulatory Commission of China.

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_y during the monitoring period results from:

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

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

Where:

BE_y is the baseline emissions of the Project;

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

EG_y is the net electricity supplied to the grid by the Project;

$EG_{\text{export,y}}$ is the quantity of electricity exported to the grid by the Project;

$EG_{\text{import,y}}$ is the quantity of electricity imported from the grid by the Project.

The monthly electricity data is listed in following table 2:

Both M1 and M2 are bidirectional meters, but M2 is more conservative as it's on the high voltage side of the transformer, so M2 is taken as the main meter of the project. Also, the grid company provides sales receipt to crosscheck the electricity that generated from the project. The electricity figures in table 2 are the most conservative ones by comparing the M2 monthly record and sales receipt from the grid company. For the comparing process, please check the project ER sheet.

Table2. Calculation of the net electricity supplied to the grid by the project

Period		Electricity exported to the grid by the project ($EG_{\text{export,y}}$) (MWh)	Electricity imported from the grid by the project ($EG_{\text{import,y}}$) (MWh)	Net electricity supplied to the grid (EG_y) (MWh)
From	To	A	B	C=A-B
11/12/2008	31/12/2008	1584.134	232.852 ¹	1,351.282
Subtotal in 2008		1584.134	232.852	1,351.282
01/01/2009	31/01/2009	8,950.867	10.863	8,940.004
01/02/2009	28/02/2009	9,784.891	11.417	9,773.474
01/03/2009	31/03/2009	9,785.188	13.375	9,771.813
01/04/2009	30/04/2009	10,306.690	24.467	10,282.226
01/05/2009	31/05/2009	10,306.250	20.471	10,285.781
01/06/2009	30/06/2009	10,307.407	20.553	10,286.854
01/07/2009	31/07/2009	10,307.638	19.738	10,287.900

¹ During the construction period and commissioning period, the Project has imported electricity from the grid, which has been recorded by the main meter.

01/08/2009	31/08/2009	9,786.688	15.579	9,771.109
01/09/2009	30/09/2009	9,786.993	14.764	9,772.229
01/10/2009	31/10/2009	8,953.660	6.615	8,947.045
01/11/2009	30/11/2009	8,954.855	7.841	8,947.014
01/12/2009	31/12/2009	8,954.295	6.689	8,947.606
Subtotal in 2009		116,185.422	172.372	116,013.050
01/01/2010	31/01/2010	8,954.510	7.667	8,946.843
01/02/2010	28/02/2010	9,788.511	15.501	9,773.010
01/03/2010	31/03/2010	9,788.799	14.848	9,773.951
01/04/2010	30/04/2010	10,310.500	19.744	10,290.759
01/05/2010	31/05/2010	10,310.900	17.707	10,293.193
01/06/2010	30/06/2010	10,310.390	16.381	10,294.009
01/07/2010	31/07/2010	10,311.450	21.058	10,290.395
01/08/2010	31/08/2010	9,790.313	18.223	9,772.090
01/09/2010	30/09/2010	9,386.034	10.652	9,375.382
01/10/2010	24/10/2010	5,715.336	21.912	5,693.424
Subtotal in 2010		94,666.743	163.693	94,503.050
11/12/2008	24/10/2010			211,867.382

The baseline emission during this monitoring period calculated as following:

Total: $BE_y = EG_y \times EF_{grid,CM,y} = 211,867.382 \text{ MWh} \times 1.1459 \text{ tCO}_2\text{e/MWh}$

=242,778 tCO₂e

Year 2008: $BE_y = EG_y \times EF_{grid,CM,y} = 1,351.282 \text{ MWh} \times 1.1459 \text{ tCO}_2\text{e/MWh}$

=1,548 tCO₂e

Year 2009: $BE_y = EG_y \times EF_{grid,CM,y} = 116,013.050 \text{ MWh} \times 1.1459 \text{ tCO}_2\text{e/MWh}$

=132,939 tCO₂e

Year 2010: $BE_y = EG_y \times EF_{grid,CM,y} = 94,503.050 \text{ MWh} \times 1.1459 \text{ tCO}_2\text{e/MWh}$

=108,291 tCO₂e

Vintage	$EG_{facility,y}$ (MWh)	$EF_{grid,CM,y}$ (tCO ₂ e/MWh)	BE_y (tCO ₂ e)
2008	1,351.282	1.1459	1,548
2009	116,013.050	1.1459	132,939

2010	94,503.050	1.1459	108,291
Total	211,867.382	1.1459	242,778

4.2 Project Emissions

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

4.3 Leakage

Leakage (L_y) is 0 tCO₂e 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:

$$ER_y = BE_y - PE_y - L_y = 242,778 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} = 242,778 \text{ tCO}_2\text{e}$$

$$ER_y = BE_y - PE_y - L_y = 1,548 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} = 1,548 \text{ tCO}_2\text{e}$$

$$ER_y = BE_y - PE_y - L_y = 132,939 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} = 132,939 \text{ tCO}_2\text{e}$$

$$ER_y = BE_y - PE_y - L_y = 108,291 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} = 108,291 \text{ tCO}_2\text{e}$$

Vintage	BE _y (tCO ₂ e)	PE _y (tCO ₂ e)	L _y (tCO ₂ e)	ER _y (tCO ₂ e)
2008	1,548	0	0	1,548
2009	132,939	0	0	132,939
2010	108,291	0	0	108,291
Total	242,778	0	0	242,778

5 ADDITIONAL INFORMATION

The actual emission reductions during this monitoring period are 242,778 tCO₂e, 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.