

**MONITORING REPORT****Version: 02****Date: 19/11/2010****Inner Mongolia Wuliji Wind Farm Project****CDM registration reference number: 2483****The monitoring period: 13/09/2009 – 14/03/2010****SECTION A. General description of the project activity****A.1. Brief description of the project activity: >>**

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The Inner Mongolia Wuliji Wind Farm Project (hereafter referred to as the “Project”), developed by CGNWind Power Co., Ltd, (hereafter referred to as the “Project Developer”) is a grid connected renewable energy project in the Wulate Hou Qi, Bayannao’er City, Inner Mongolia Autonomous Region, the People’s Republic of China (hereafter referred to as the “Host Country”). It involves the installation of 40 turbines, each of which has a rated output of 1,250 kW, providing a total installed capacity of 50 MW, with a predicted power supplied to the grid of 117,630 MWh per annum.

Purpose of the Project:

The objective of the project is to generate renewable electricity from wind and the generated power will be accessed to the North China Power Grid (hereafter referred to as “NCPG”).

Relevant dates for the project activity:

Timeline of the project activity

Commissioning start date	13/09/2009
Date of CDM registration	15/03/2010
Monitoring period	13/09/2009-14/03/2010

Emission reductions during this monitoring period:

Based on the calculation in section E of this report, emission reductions of the Project during this monitoring period (13/09/2009-14/03/2010) are 63,467tCO₂e.

A.2. Project Participants

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Name of Party involved (*) ((host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
P.R.China (host)	CGN Wind Power Co., Ltd.	No
(*) In accordance with the CDM modalities and procedures, at the time of making the CDM-PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration, the approval by the Party(ies) involved is required.		

A.3. Location of the project activity:

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The project activity lies in the Wulate Hou Qi, Bayannao'er City, Inner Mongolia Autonomous Region, China. The coordination of the wind farm center is as follow:

Latitude: 41°30'20" (N)

Longitude 106°38'30" (E)

A.4. Technical description of the project

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The project involves the installation of 40 wind turbines each of which with a rated capacity of 1,250 kW, providing a total capacity of 50MW. The power generated is delivered to the North China Power Grid by 220kV step-up substation. The power generation is monitored by the electronic control and monitoring system in the onsite office, as well as through the electricity meter at the 220kV transformer station at the project site, to connect the project with the 220kV grid. The main technical specifications of the wind turbines are provided in Table 1.

Table 1 Main technical specifications of the installed wind turbines

Item	Parameters	Manufacturer
Type	SEC-1250	SEWind Co.,Ltd
Quantity (sets)	40	
Rated capacity (kW)	1250	
Hub height (m)	65	
Rotor diameter (m)	64	
Sweep-wind area (m2)	3217	
Cut-in speed (m/s)	2.8	
Rated wind speed (m/s)	12.3	
Cut-out speed (m/s)	23	
Rated voltage of generator (V)	690	

The technology adopted in the project activity is widely used has been proved to have no negative influence on environment. The main equipment is manufactured in the host country. No international technology is transferred from other countries to the bundle project.

The technology flow chart of the Project is shown as below:

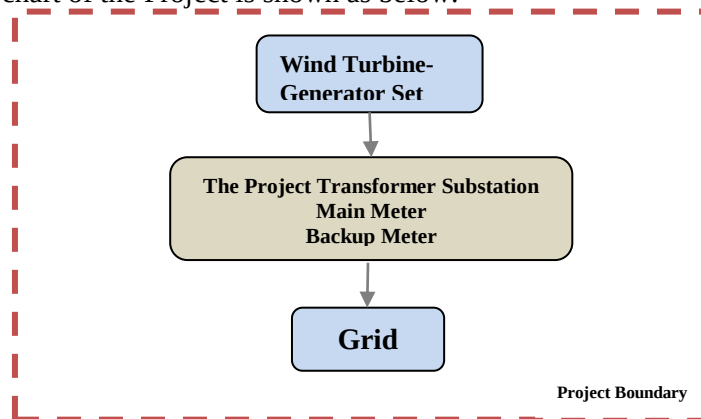


Figure 1 Technology flow chart of the Project

**A.5. Title, reference and version of the baseline and monitoring methodology applied to the project activity:**

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1. The methodology applied for the Project is the approved consolidated baseline and monitoring methodology ACM0002: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” Version 09, in effect as of 27 Feb. 2009; and
2. The approved “Tool for demonstration and assessment of additionality”, Version 05.2, in effect as of EB 39; and
3. The approved “Tool to calculate the emission factor for an electricity system”, Version 01.1, in effect as of EB 35, are applied to the Project activity.

More information about the methodology can be obtained at:

<http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>.

A.6. Registration date of the project activity:

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15/03/2010

A.7. Crediting period of the project activity and related information (start date and choice of crediting period):

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According to the VCS 2007.1, the starting date of the crediting period is 13/09/2009. The VCS Project crediting period is from 13/09/2009 to 14/03/2010.

A.8. Name of responsible person(s)/entity(ies):

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Entity: CGN Wind Power Co., Ltd

Address: No.2 Building, Area 12 of Advanced Business Park, No.188 west of South 4th ring road, Beijing, China

Tel: +86-10-63705611

Fax: +86-10-63705685

**SECTION B. Implementation of the project activity****B.1. Implementation status of the project activity**

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The Project was put into operation on 13 September 2009.

Technology and equipments adopted in the Project are consistent with the registered PDD. During this monitoring period (13/09/2009-14/03/2010), all the equipments and metering systems worked normally. No events or situations, which may impact the applicability of the methodology, occurred during this monitoring period.

B.2. Revision of the monitoring plan

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Not applicable.

B.3. Request for deviation applied to this monitoring period

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Not applicable.

B.4. Notification or request of approval of changes

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Not applicable.

SECTION C. Description of the monitoring system

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In the registered PDD, emission factor of the Project is determined ex-ante. Therefore the net electricity supplied to the grid by the Project is defined as the key data to be monitored.

1. Organizational structure and responsibility

The Project owner, CGN Wind Power Co., Ltd., takes the responsibility of the monitoring plan implementation.

The project developer had established a monitoring management framework prior to the starting of the crediting period. Clear responsibilities have been assigned to all staff involved in the CDM project. A monitoring director has been appointed who has the overall responsibilities for the monitoring of the project, other staff will be responsible for the data recording, data collecting, data archiving and emission reductions calculation.

The concerned staffs had been trained on monitoring and measurement to ensure the implementation of this monitoring plan according to the requirements.

Organizing structure of the team is shown as figure 2.

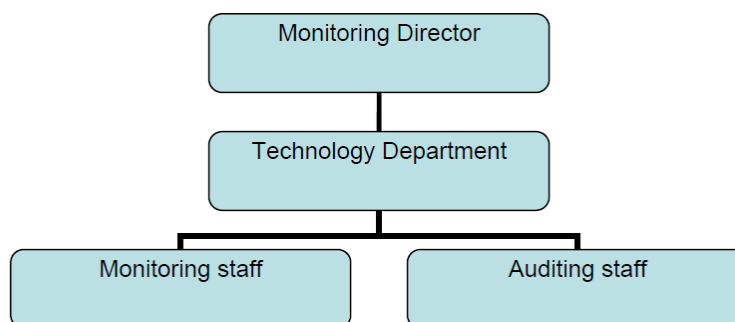


Figure 2 Structure of the team

2. Monitoring system and data collection

The readings of the main meter are used for calculating the emission reductions when the main meter is in normal operation state. The designated persons from the grid company and the project company jointly record the main meter readings of the power to/from the grid monthly. The project developer provides the DOE with the readings of the main meters at the project site transformer substation and the copy of sale receipt. The project developer will archive the data until two years after the end of the crediting period, whichever occurs later.

Indicative electric connection diagram of the Project is described as follow:

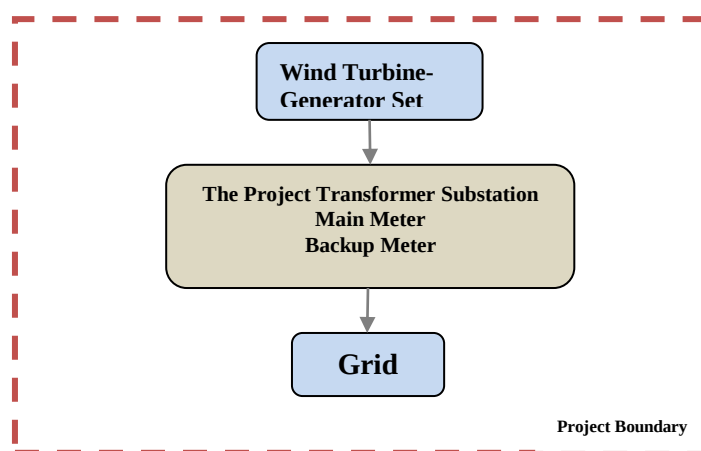


Figure 3 Indicative electric connection diagram of the project activity

3. Quality assurance and quality control

Calibration of Meters has been implemented by the qualified third parties. No errors occurred during this monitoring period. And all the records could be documented and maintained by the project owner for DOE's verification. The detailed information on meter equipments is listed in the table 2.

Table 2. The detailed information on meter equipments

Meter	Type	Accuracy Class	SN	Calibration Date	Validity Period
Main meter	ZMQ202C	0.2S ¹	95691047	14/07/2009	14/07/2009-13/07/2010
Backup meter	ZMQ202C	0.2S ²	95691048	14/07/2009	14/07/2009-13/07/2010

The net electricity supply to the grid is double checked by receipt of sales. The meters are calibrated once per year by a qualified organization according to the related national standards and regulations (Chinese electricity industry regulation DL/T448). A back-up meter is installed at the project site transformer substation to check the main meter³. When the main meter fails to work normally, the readings of the back-up meter will be adopted. Proportion of the monitored data is 100%. The data will be kept during the crediting period and until two years after the end of the crediting period.

4. Emergency procedures

^{1 2} The accuracy class of the main meter and backup meter in the actual monitoring system is 0.2S, which is more accurate than the 0.5S accuracy class meters described in the registered PDD.

³ In consideration of the provision of the power purchase agreement of the project and the actual monitoring system, the exported electricity to the grid and imported electricity from the grid should be monitored through the main meter at the Project site transformer substation. If the main meter has a breakdown, the readings of the backup meter installed at the Project site transformer substation as well will be adopted. Therefore, the backup meter installed at the project site in section B.7.2.3 of P33 of registered PDD is not an exact expressions, it should be at the project site transformer substation. The backup meter and the main meter are in the same installation place.



When the main meter or back-up meter have a breakdown, the electricity generation difference will be treated as follows:

- (1) When both meters are fine, the main meter will be used;
- (2) When one of the two meters has a breakdown, the readings of the other meter will be adopted;
- (3) If both the main meter and back-up meter have breakdowns, the net electricity supplied to the grid will be calculated from the readings of other meters and deducting the line losses

.
Problem occurred in monitoring and measurement process has been recorded and reported to company administrator. Consequently, the corrective resolution will be adopted to deal with that problem and to avoid it occur again in future.

**SECTION D. Data and parameters****D.1. Data and parameters determined at registration and not monitored during the monitoring period, including default values and factors**

Data / Parameter:	$EF_{grid,CM,y}$
Data unit:	tCO ₂ e/MWh
Description:	<i>The Baseline emission factor of NCPG</i>
Source of data used:	<i>Registered PDD</i>
Value(s) :	<i>1.0548</i>
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	<i>The data are used for Baseline emission calculations</i>
Additional comment:	<i>The data is calculated ex-ante according to the applied methodology.</i>

D.2. Data and parameters monitored



Data / Parameter:	EG_y
Data unit:	MWh
Description:	Net electricity supplied to the grid by the project in period y
Measured /Calculated /Default:	Electricity meters are installed at the project site transformer substation, (the main meter and the backup meter) to monitor the power output generated. The export of electricity and import of electricity is measured continuously. The net electricity EG_y is calculated as export of electricity minus import of electricity. A designated person from the grid company and the project company jointly record the readings of the meters at the onsite substation to the grid each month.
Source of data:	The export of electricity and import of electricity are measured by the Main Meter installed at the project site transformer substation. The net electricity EG_y is calculated as export of electricity minus import of electricity.
Value(s) of monitored parameter:	Detailed data and calculation is presented in section E.1. of the monitoring report. EG_y during this monitoring period is 60,171MWh.
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	The data are used for Baseline emission calculations.
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	The accuracy of the main meter reaches no less than 0.5s. The detailed information on meter equipment showed in C.3.
Measuring/ Reading/ Recording frequency:	The electricity meter measures the export of electricity and the import of electricity continuously and accumulatively. The data is recorded monthly.
Calculation method (if applicable):	Calculated as export of electricity minus import of electricity.
QA/QC procedures applied:	1. The net electricity supply to the grid is double checked by receipt of sales. 2. The meters are calibrated once per year by a qualified organization according to the related national standards and regulations (Chinese electricity industry regulation DL/T448). 3. A back-up meter is installed at the project site transformer substation to check the main meter. Both the main meter and backup meter are in the same installation place. When the main meter fails to work normally, the readings of the back-up meter will be adopted. 4. Proportion of the monitored data is 100%. 5. The data will be kept during the crediting period and until two years after the end of the crediting period.

SECTION E. Emission reductions calculation

E.1. Baseline emissions calculation

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Baseline emissions (BE_y in tCO₂e) are the product of the baseline emissions factor ($EF_{grid,CM,y}$ in tCO₂e/MWh) multiplied by the net electricity supplied by the Project to the grid (EG_y in MWh):

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

Where

EG_y — The net electricity supplied by the project activity to the grid in year y (MWh).

$EF_{grid,CM,y}$ — Emission factor of the grid (tCO₂e /MWh) (1.0548tCO₂e /MWh, as calculated ex-ante in the registered PDD and will not be updated during the crediting period).

The emission reductions by the Project are listed as below:

Period	Total exported electricity to the grid by the Project (MWh)	Total imported electricity from the grid by the Project (MWh)	The net electricity supplied to the grid (MWh)	$EF_{grid,CM,y}$ (tCO ₂ e/MWh)	BE_y (tCO ₂ e)
13/09/2009-30/09/2009	2,043.66	19.30	2,024.36	1.0548	2,135.29
01/10/2009-31/10/2009	11,473.73	85.19	11,388.54	1.0548	12,012.63
01/11/2009-30/11/2009	12,491.35	73.90	12,417.45	1.0548	13,097.93
01/12/2009-31/12/2009	11,449.99	160.66	11,289.33	1.0548	11,907.99
Subtotal	37,458.73	339.05	37,119.68	1.0548	39,153
01/01/2010-31/01/2010	10,473.93	173.66	10,300.27	1.0548	10,864.72
01/02/2010-28/02/2010	7,640.63	180.39	7,460.24	1.0548	7,869.06
01/03/2010-14/03/2010	5,320.39	29.58	5,290.81	1.0548	5,580.75
Subtotal	23,434.95	383.63	23,051.32	1.0548	24,314
Total	60,893.68	722.68	60,171	1.0548	63,467

As shown above, the electricity supplied to the grid from the 13/09/2009 to 14/03/2010 is **60,893.68** MWh.

In this monitoring period, the total electricity imported from the grid is 722.68MWh. The net electricity supplied to the grid (EG_y) by the Project is:

$$EG_y = EG_{export,y} - EG_{import,y} = \mathbf{60,171MWh}$$

The baseline emission (BE_y) can be calculated by the formula below:

$$BE_y = EG_y \times EF_{grid,CM,y} = 60,171 \text{ MWh} \times 1.0548 \text{ tCO}_2\text{e/MWh} = \mathbf{63,467 \text{ tCO}_2\text{e}}$$

Period	Net electricity supplied to the grid by the project (MWh)	Baseline Emissions (tCO ₂ e)
13/09/2009-31/12/2009	37,119.68	39,153
01/01/2010-14/03/2010	23,051.32	24,314
Total	60,171	63,467

E.2. Project emissions calculation

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The Project does not have backup power generation. According to the applied methodology, the project emissions from the Project are not considered. The Project emissions is zero, as $PE_y = 0 \text{ tCO}_2\text{e}$.

E.3. Leakage calculation

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According to the applied methodology, as a new renewable energy project, no leakage needs to be considered in the Project, as $L_y = 0 \text{ tCO}_2\text{e}$.

E.4. Emission reductions calculation / table

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

$$ER_y = BE_y - PE_y - L_y$$

As the project emissions and leakages from the Project are zero, emission reductions are numerically equal to baseline emissions.

Emission reductions during the monitoring period (13/09/2009-14/03/2010) are thus calculated as 63,467 tCO₂e.

E.5. Comparison of actual emission reductions with estimates in the CDM-PDD

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Item	Values applied in ex-ante calculation of the registered CDM-PDD	Actual values reached during the monitoring period
Emission reductions (tCO₂e)	62,207*	63,467

*Note: The data is average one calculated based on the registered PDD. The annual emission reductions estimated in the registered PDD are 124,076 tCO₂e. The monitoring period covers 183 days, so the average one is calculated as below:

$$124,076 / 365 \times 183 = 62,207 \text{ tCO}_2\text{e}$$

**E.6. Remarks on difference from estimated value in the PDD**

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It can be concluded from Section E.5 that there is 1.99% increase in the actual emission reductions achieved during the monitoring period compared to the ex-ante calculation of the registered PDD. Therefore, the actual emission reduction hasn't significant increase.
