

MONITORING REPORT FORM (CDM-MR) *
Version 01 - in effect as of: 28/09/2010

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MONITORING REPORT

Version: 01

Date: 05/07/2011

CGN Inner Mongolia Duerbote Wind farm Project

CDM registration reference number: 2406

The 2nd monitoring period (01/07/2010 - 30/06/2011)

SECTION A. General description of the project activity

A.1. Brief description of the project activity: >>

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CGN Inner Mongolia Duerbote Wind farm Project is generating renewable electricity utilizing wind power and sell the generated output to the North China Power Grid (NCPG) on the basis of a power purchase agreement (PPA). Based on the conditions of the project site, the project activity has installed 33 wind turbines, each with a capacity of 1500kW. The total installed capacity of the project activity is 49.5MW. The ex-ante expected net generation of the project activity is approximately 114,110 MWh per year, with a load factor of 26.32%.

Purpose of the Project:

The purpose of the project is to utilize a wind power facility to generate zero greenhouse gas (GHG) emissions electricity for the North China Power Grid (hereafter referred to as the “Grid” or “NCPG”). The Project Developer has obtained permission to sell electricity to the Inner Mongolia Power Grid which is an integral part of NCPG that dominated by fossil-fuel fired power plants.

Relevant dates for the project activity:

The Project started construction on 08/05/2008 and put into operation on 20/08/2009. During the monitoring period, all turbines have come into operation and supplied electricity to the grid.

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 (01/07/2010-30/06/2011) are 120,532tCO₂e.

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
United Kingdom of Great Britain and Northern Ireland	Carbon Resource Management Ltd.	No
Switzerland	Carbon Resource Management S.A.	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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Host country	People's Republic of China
Province	Inner Mongolia Autonomous Region
City	Wulanchabu City
County	Siziwangqi County
GPS coordinates	Latitude 41°31'North

A.4. Technical description of the project

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The proposed project involves the installation of 33 wind turbine generators each of which with a rated capacity of 1,500 kW, providing a total capacity of 49.5MW. The expected annual electricity supply to the grid is 114,110MWh with an average load factor of 26.32%. The turbine type is Goldwind 82/1500. The electricity is exported through the 220kV transmission line to the substation of the power grid.

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

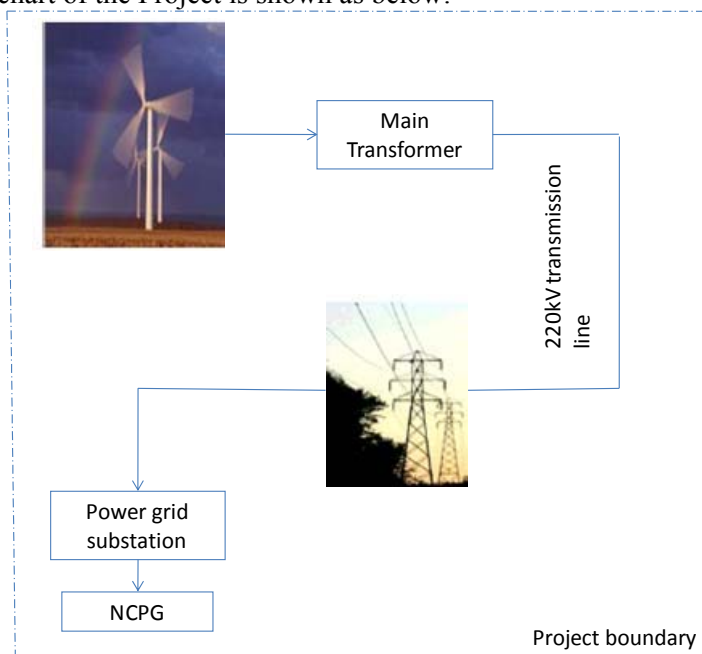


Figure 1 Technology flow chart of the Project

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

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1. The approved baseline and monitoring methodology ACM0002 (version 07, dated 30/11/2007) - "Consolidated methodology for grid-connected electricity generation from renewable sources" and the approved monitoring methodology ACM0002 (version 07);

More information about the methodology can be obtained at:

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

A.6. Registration date of the project activity:

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24/05/2009

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

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The first crediting period has been changed from 24/05/2009 – 23/05/2016 to 20/08/2009 - 19/08/2016, and is listed on the project page. The crediting period is renewable.

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

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Entity: CGN Wind Power Co., Ltd

Xu Xiansong

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

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Fax: +86-10-63705875

SECTION B. Implementation of the project activity

B.1. Implementation status of the project activity

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The project activity was started construction on 08/05/2008. The first two turbines were commissioned on 20/08/2009. Technology and equipments adopted in the Project are consistent with the registered PDD.

During this monitoring period (01/07/2010-30/06/2011), the wind farm has a good running, smooth data transfer and grid connection, and no special events happened. 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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This section details the steps taken to monitor the GHG emissions reductions on a regular basis from the CGN Inner Mongolia Duerbote Wind farm Project.

The Monitoring set up for this project has been developed to ensure that from the start, the project is well organised in terms of the collection and archiving of complete and reliable data.

1. Monitoring of the Quantity of net electricity generation supplied by the project to the grid

The net electricity supplied to the grid is continuously measured by the main meter installed at the substation of the grid company. This main meter is bidirectional and has two-way metering, recording both exports to the grid (Gen) and imports from the grid (Cons); net electricity supplied to the grid by the project (EG_y) is calculated as exports minus imports.

Every month the project developer obtains the net electricity supplied to the grid from the power grid substation. The net generation monitored by the main meter is sufficient for the purpose of billing and emission reductions, as long as the error in the meters is within the agreed limits. The main meter used for billing is also the main meter used for emission reduction calculations.

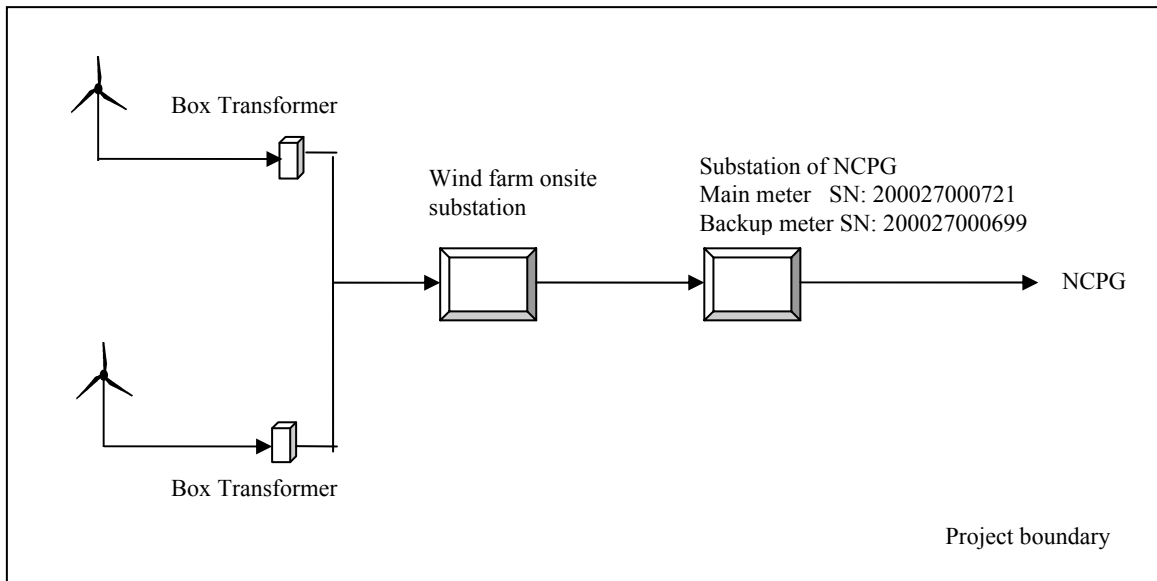
Table 1 Meter and monitored electricity

Variable	Description	Source of data
Gen	the electricity exported to the grid	Monitored by the bidirectional main meter in the substation of the power grid
Cons	the electricity imported from the grid	Monitored by the bidirectional main meter in the substation of the power grid

The net electricity supplied to the grid by the project (EG_y) can be calculate as below:

$$EG_y = \text{Gen} - \text{Cons}$$

The line diagram showing all relevant monitoring points is as following:



2. Monitoring Organisation

Overall responsibility for monitoring and carrying out the monitoring following this monitoring plan lies with the CGN Wind Power Co., Ltd.

The staffs from technology and financial departments undertake the monitoring tasks including watching metering equipments, collecting electricity data and completing records, checking and analyzing the data, archiving relevant records, reporting to company administrator or supervisor.

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.

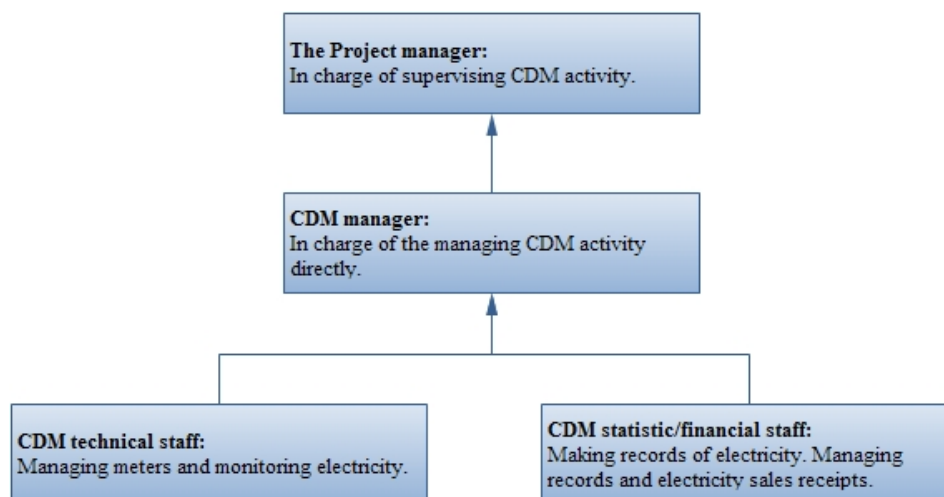


Figure 2 Structure of the team

3. Staff training

Training is conducted on-site to ensure that staffs are capable of performing their designated tasks to high standards. This includes CDM specific training to warrant that they understand the importance of complete and accurate data and records for CDM monitoring.

4. Maintenance and calibration of monitoring equipment

The electricity meter(s) measuring electricity supplied to the grid are calibrated in line with the relevant national standard. This ensures that the equipment operates at the stated level of accuracy.

5. Data collection and record-keeping arrangements

All CDM relevant data will be measured and collected as detailed in Section D. All data required for verification and issuance will be backed-up and retained for at least two years after the end of the crediting period or the last issuance of CERs of the Project, whichever occurs later.

6. Data Quality Control and Quality Assurance

All data collected on-site will be checked internally before being compiled in an electronic format, to ensure that it is complete and of appropriate quality.

7. Emergency procedures

The meters were calibrated and checked for accuracy. Calibration was carried out by the qualified entity. Meters had been jointly inspected and sealed on behalf of the parties concerned. No errors occurred during this monitoring period.

Should any previous months reading of the main meter be inaccurate by more than the allowable error, or otherwise functioned improperly, the net generation output shall be determined by:

- (a) first, by reading backup meter, unless a test by either party reveals it is inaccurate;
- (b) if the backup system is not within acceptable limits of accuracy or operation is performed improperly the project operator and NCPG shall jointly prepare a reasonable and conservative estimate of the correct reading, and provide sufficient evidence that this estimation is reasonable and conservative.

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:	The Baseline emission factor of North China Power Grid.
Source of data used:	Registered PDD
Value(s) :	1.0548
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	The data are used for Baseline emission calculations
Additional comment:	The data is calculated ex-ante according to the applied methodology.

D.2. Data and parameters monitored

Data / Parameter:	EG _y																										
Data unit:	MWh																										
Description:	Net electricity supplied to the grid by the project																										
Measured /Calculated /Default:	It is monitored continuously through the main meter installed at the substation of the power grid. This main meter is bidirectional and has two-way metering, recording both exports to the grid (Gen) and imports from the grid (Cons); net electricity supplied to the grid (EG _y) is calculated as exports minus imports. The results from the main meter are recorded by the Grid Company at 24:00 on the last day of every month and reported to the Developer.																										
Source of data:	Monthly reading records of the main meter and backup meter installed in the substation of the power grid.																										
Value(s) of monitored parameter:	Detailed monthly data and calculation is presented in section E1 of the monitoring report. EG _y during this monitoring period is 114,270.60MWh																										
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline Emission calculation																										
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	<table><tr><td></td><td>Main meter</td><td>Backup meter</td></tr><tr><td>Type</td><td colspan="2">electricity meter</td></tr><tr><td>Accuracy</td><td colspan="2">0.2S</td></tr><tr><td>Calibration frequency</td><td colspan="2">annually</td></tr><tr><td>SN</td><td>200027000721</td><td>200027000699</td></tr><tr><td>Calibration done on</td><td>29/04/2010 26/03/2011</td><td>29/04/2010 26/03/2011</td></tr><tr><td>Next Calibration due on</td><td>25/03/2012</td><td>25/03/2012</td></tr><tr><td>Calibrator</td><td colspan="2">Inner Mongolia Electric Power Research Institute, Meng Faji 2009 No.15021, valid from 01/01/2009 to 01/01/2014, accredited by Bureau of Quality and Technical Supervision of Inner Mongolia Autonomous Region</td></tr></table>				Main meter	Backup meter	Type	electricity meter		Accuracy	0.2S		Calibration frequency	annually		SN	200027000721	200027000699	Calibration done on	29/04/2010 26/03/2011	29/04/2010 26/03/2011	Next Calibration due on	25/03/2012	25/03/2012	Calibrator	Inner Mongolia Electric Power Research Institute, Meng Faji 2009 No.15021, valid from 01/01/2009 to 01/01/2014, accredited by Bureau of Quality and Technical Supervision of Inner Mongolia Autonomous Region	
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Measuring/ Reading/ Recording frequency:	Measuring continuously/ Recording monthly																										
Calculation method (if applicable):	EG _y = Gen- Cons																										
QA/QC procedures applied:	Cross checked with the receipts of sales.																										

Back-up meter is installed at substation of the power grid company.

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 delivered by the Project to the grid (EG_y in MWh):

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

Where

EG_y — Net electricity delivered to the grid during the monitoring period (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 exported electricity by the Project to the grid is listed as below:

Period		Electricity exported to grid (Gen) (MWh)	Electricity imported from grid (Cons)(MWh)	Net electricity supplied to the grid (EGy)(MWh)
Start	End	Data from the Meter	Data from the Meter	
01/07/2010	31/07/2010	8100.40	25.60	8074.80
01/08/2010	31/08/2010	8563.70	27.20	8536.50
01/09/2010	30/09/2010	7986.30	23.60	7962.70
01/10/2010	31/10/2010	10241.60	19.30	10222.30
01/11/2010	30/11/2010	11244.40	4.90	11239.50
01/12/2010	31/12/2010	7897.20	24.80	7872.40
01/01/2011	31/01/2011	5614.00	58.80	5555.20
01/02/2011	28/02/2011	5759.30	44.20	5715.10
01/03/2011	31/03/2011	11928.80	10.30	11918.50
01/04/2011	30/04/2011	12865.90	12.80	12853.10
01/05/2011	31/05/2011	14440.80	13.40	14427.40
01/06/2011	30/06/2011	9910.90	17.80	9893.10
Total		114553.30	282.70	114270.60

As shown above, the electricity exported to the grid from the 01/07/2010 to 30/06/2011 is 114,553.3MWh.

In this monitoring period, the total electricity imported from the grid is 282.7 MWh.

The net electricity delivered to the grid ($EG_{facility,y}$) by the Project is:

$$EG_{facility,y} = 114,553.3 \text{ MWh} - 282.7 \text{ MWh} = 114,270.6 \text{ MWh}$$

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

$$BE_y = EG_y \times EF_{grid,CM,y} = 114,270.6 \text{ MWh} \times 1.0548 \text{ tCO}_2\text{e/MWh} = 120,532 \text{ tCO}_2\text{e}$$

E.2. Project emissions calculation

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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 (01/07/2010-30/06/2011) are thus calculated as 120,532 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 (tCO ₂ e)	120,363	120,532

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 0.14% increase in the actual emission reductions achieved during the monitoring period compared to the ex-ante calculation of the registered PDD. It can be observed that there is no significant increase of the emission reduction, compared with the estimate value in the registered PDD.

----- History of the document

Version	Date	Nature of revision
01	EB 54, Annex 34 28 May 2010	Initial adoption.
Decision Class: Regulatory Document Type: Guideline, Form Business Function: Issuance		