



MONITORING REPORT
Version 1.0 Date 27/07/2010

CGN Inner Mongolia Duerbote Wind farm Project
UNFCCC reference number:2406
The 1st monitoring period (20/08/2009 - 30/06/2010)

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 26.31%.

Project timeline

Construction start date	08/05/2008
Commissioning start date	20/08/2009
Date of CDM registration	24/05/2009 (PDD version 3.0, dated 04/12/2008)
First renewable crediting period	20/08/2009 - 19/08/2016
Starting date of crediting period	20/08/2009
Current monitoring period	
Volume 1	20/08/2009 – 30/06/2010
End date of crediting period	19/08/2016

The total emission reductions achieved in the current monitoring period are 105,381tCO₂e.

A.2. Project Participants

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Name of Party involved	Private and/or public entity(ies) project participants (as applicable)	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

A.3. Location of the project activity:

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Host country People's Republic of China
Province Inner Mongolia Autonomous Region

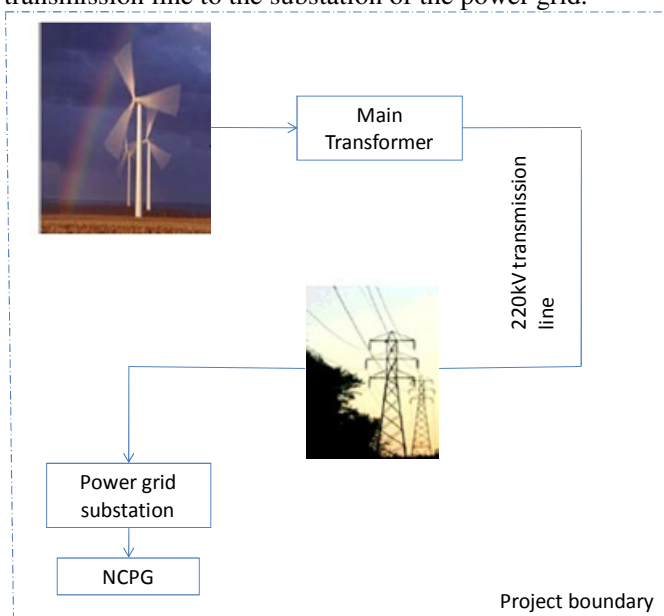


City Wulanchabu City
County Siziwangqi County
GPS Latitude 41°31' North
coordinates Longitude 111°34' East

A.4. Technical description of the project

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33 sets of 1500kW Goldwind turbines were selected. The electricity is exported through the 220kV transmission line to the substation of the power grid.

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

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The approved methodology applied to the project is the approved baseline methodology ACM0002 (version 07, Valid from 14 Dec 07 to 04 Dec 08) - "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" and the approved monitoring methodology ACM0002 (version 07, Valid from 14 Dec 07 to 04 Dec 08) - "Consolidated monitoring methodology for grid-connected electricity generation from renewable sources". These documents are available from: <http://cdm.unfccc.int/methodologies/approved>.

The approved methodology ACM0002 prescribes the use of the latest version of the "Tool for the demonstration and assessment of additionality" agreed by the Executive Board. Within the validity of ACM0002 (version 07), the "Tool for the demonstration and assessment of additionality" version 05.2 (valid from 26 Aug 2008 onwards) is adopted here.

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 – 23/02/2016 to 20/08/2009 - 19/08/2016, and is listed on the project page.

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

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Contact information of the person(s)/entity(ies) responsible for completing the monitoring report form (CDM-MR):

- The persons preparing the documentation were:
 - Ms. Li Ning, ln@carbonresource.com, Tel: +86 10 8447 5246/8
 - Mr. Zhu Hailei, zhl@carbonresource.com, Tel: +86 10 8447 5246/8
 - Mr. John Green, jg@carbonresource.com, Tel: +41 22 328 0851
- The entity preparing the documentation:

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Salutation:	Mr.
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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, and all the 33 wind turbines have been put into operation gradually till 23/09/2009, and well operated during this monitoring period.



During this monitoring period, the wind farm has a good running, smooth data transfer and grid connection, and no special events happened.

No events or situations occurred during the monitoring period, which may impact the applicability of the methodology.

B.2. Revision of the monitoring plan

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The project is implemented as in the registered monitoring plan, no revision is applied.

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

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The project is implemented as in the registered monitoring plan, no deviation is applied.

B.4. Notification or request of approval of changes

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The project activity is implemented as in the registered CDM-PDD, there is no notification or request of approval of changes from the project activity as described in the registered CDM-PDD.

SECTION C. Description of the monitoring system

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1. Monitoring system and data collection

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 (EG) is calculated as exports minus imports. The readings from the main meter will be recorded monthly by the grid company and supplied to the developer.

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 suffice 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.

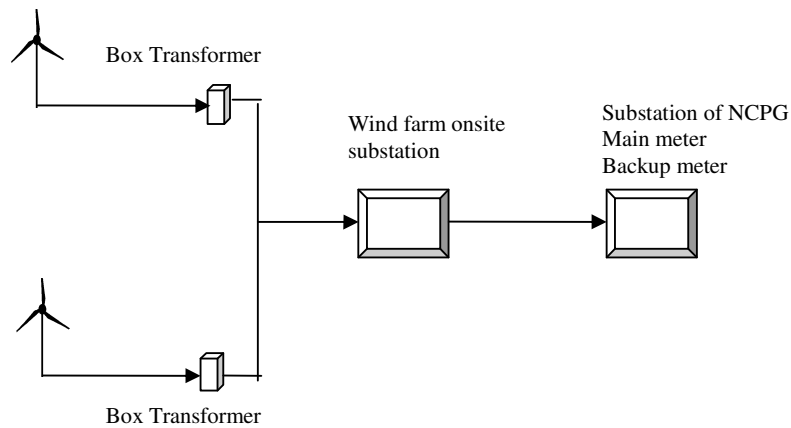
Table 1 Meter and monitored electricity

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 supplied power (EG) can be calculate as below:

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

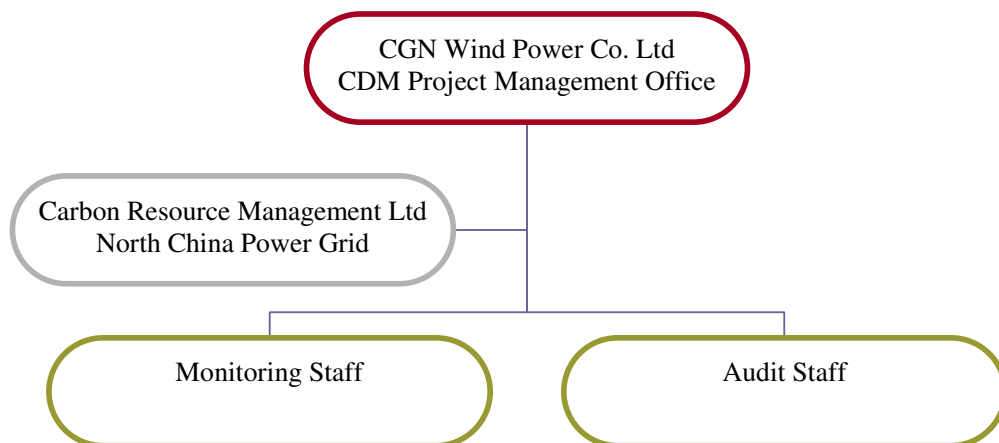
The line diagram showing all relevant monitoring points is as following:



2. Organizational structure and responsibilities

Overall responsibility for monitoring and carrying out the monitoring following this monitoring plan lies with the CGN Wind Power Co., Ltd. Carbon Resource Management Ltd. had advised the project developer on how to perform the monitoring work. The staffs who were responsible for electricity meter readings and recording, and who were responsible for auditing the metered data had been trained according to the CDM requirements.

The operating and management structure of monitoring is illustrated as follows:



3. 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 an 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

(Copy this table for each data and parameter. To report multiple values, a table may be used)

Data / Parameter:	EF_{grid, CM}
Data unit:	tCO₂/MWh
Description:	Emission factor which is ex-anted according to the applied methodology
Source of data used:	Registered PDD
Value(s) :	1.0548
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline emission calculation
Additional comment:	

D.2. Data and parameters monitored

(Copy this table for each data and parameter. To report multiple values, a table may be used)

Data / Parameter:	EG_{total}
Data unit:	MWh
Description:	Net electricity supplied to the grid by the project
Measured /Calculated /Default:	It will be 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) 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 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 during this monitoring period is 99907.018
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline Emission calculation
Monitoring equipment (type, accuracy class, serial	The main meter installed at the substation of the power grid accuracy: 0.2S



number, calibration frequency, date of last calibration, validity)	
Measuring/ Reading/ Recording frequency:	Measuring continuously/ Recording monthly
Calculation method (if applicable):	EG= 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 The backup meter is calibrated annually, and the accuracy is .02S.

SECTION E. Emission reductions calculation

E.1. Baseline emissions calculation

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The baseline emissions in year y is calculated as

$$BE_y = EG_{\text{project}} \times EF_y$$

Table 2 calculation of BE_y

Period		Net electricity supplied to the grid (EGy)(MWh)	EFy (tCO2/MWh)	BEy(tCO2)
Start	End	C	D	E=D*C
20/08/2009	31/08/2009	1620.993	1.0548	1709.823
01/09/2009	30/09/2009	8298.600	1.0548	8753.363
01/10/2009	31/10/2009	11214.954	1.0548	11829.533
01/11/2009	30/11/2009	9743.975	1.0548	10277.945
01/12/2009	31/12/2009	9580.621	1.0548	10105.639
01/01/2010	31/01/2010	8702.139	1.0548	9179.016
01/02/2010	28/02/2010	4603.030	1.0548	4855.276
01/03/2010	31/03/2010	10530.918	1.0548	11108.012
01/04/2010	30/04/2010	15383.457	1.0548	16226.470
01/05/2010	31/05/2010	15737.427	1.0548	16599.838
01/06/2010	30/06/2010	4490.904	1.0548	4737.006
Total		99907.018		105381

The detailed calculation of EG is calculated below:

Table 3 Monitored electricity data and calculation



Period		Electricity supplied to grid (Gen) (MWh)	Electricity imported from grid (Cons)(MWh)	Net electricity supplied to the grid (EGy)(MWh)
Start	End	A	B	C=B-A
20/08/2009	31/08/2009	1634.009	13.016	1620.993
01/09/2009	30/09/2009	8316.506	17.906	8298.600
01/10/2009	31/10/2009	11240.843	25.889	11214.954
01/11/2009	30/11/2009	9764.235	20.260	9743.975
01/12/2009	31/12/2009	9632.354	51.733	9580.621
01/01/2010	31/01/2010	8731.324	29.185	8702.139
01/02/2010	28/02/2010	4633.436	30.406	4603.030
01/03/2010	31/03/2010	10553.649	22.731	10530.918
01/04/2010	30/04/2010	15396.148	12.691	15383.457
01/05/2010	31/05/2010	15748.480	11.053	15737.427
01/06/2010	30/06/2010	4511.914	21.010	4490.904
Total		100162.898	255.880	99907.018

E.2. Project emissions calculation

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According to the applied methodology, as a renewable energy project, the project emissions of this project are zero.

E.3. Leakage calculation

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According to the applied methodology, as a renewable energy project, the project emissions of this project are zero.

E.4. Emission reductions calculation / table

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According to the applied methodology, the emission reductions in year y (ER_y) should be calculated as:

$$ER_y = BE_y - PE_y - L_y$$

Total baseline emissions: 105,381tCO₂e

Total project emissions: 0tCO₂e

Total leakage: 0tCO₂e

Total emission reductions: 105,381tCO₂e

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)	103,875	105,381



According to the registered PDD, the ex-ante estimated average annual emission reductions are 120,363tCO₂e. This monitoring period covers 315 days, therefore the ex-ante estimated emission reductions should be 103875tCO₂e as per registered PDD ($120363 \times 315 / 365 = 103875$).

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

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The actual emission reductions during this monitoring period are 105,381tCO₂e, which is about 1.4% higher than the estimation in the registered PDD, which is within reasonable range. It can be observed that there is no significant increase of the emission reduction, compared with the estimate value in the registered PDD.