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

MONITORING REPORT

Title of the project activity	Liaoning Zhangwu Pingandi Wind Farm Project
Reference number of the project activity	5109
Version number of the monitoring report	1.0
Completion date of the monitoring report	06/07/2012
Registration date of the project activity	25/08/2011
Monitoring period number and duration of this monitoring period	The first monitoring period First and last days included (25/08/2011-31/05/2012)
Project participant(s)	Fuxin Juyuan Wind Power Generation Co., Ltd. Carbon Resource Management S.A.
Host Party(ies)	China
Sectoral scope(s) and applied methodology(ies)	Sectoral scope 1 : Energy industries (renewable - / non-renewable sources) Applied methodology: ACM0002 ver. 12.1.0 - Consolidated methodology for grid-connected electricity generation from renewable sources
Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD	76,301metric tonnes CO_2 equivalent
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	58,656metric tonnes CO_2 equivalent

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

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The purpose of the Liaoning Zhangwu Pingandi Wind Farm Project (the project activity) is to install and operate 33 wind turbines with a capacity of 1,500 kW each; the total installed capacity will be 49.5MW. The proposed project activity is expected to deliver on 98,100 MWh of electricity per year to the Northeast Power Grid (NEPG). The purpose of the proposed project activity is the generation of electricity from wind and the supply of this electricity to the NEPG.

The total emission reductions achieved in this monitoring period are 58,656tCO_2e.

A.2. Location of project activity

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Host country	People's Republic of China
Province	Liaoning
City	Fuxin
County	Zhangwu
Town	Houxinqiu
GPS coordinates	longitude 122°43' East latitude 42°38'North

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)
China (host)	Fuxin Juyuan Wind Power Generation Co., Ltd.	No
United Kingdom of Great Britain and Northern Ireland	Carbon Resource Management SA.	No

A.4. Reference of applied methodology

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The approved methodology and tool applied to this project is:

•Approved baseline and monitoring methodology ACM0002 (version 12.1.0) "Consolidated methodology for grid-connected electricity generation from renewable sources"

• AM_Tool_01 version 05.2 "Tool for the demonstration and assessment of additionality"

• AM_Tool_02 version 02.2 "Combined tool to identify the baseline scenario and demonstrate additionality" (this tool is not applicable to the project)

• AM_Tool_03 version 02 "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" (this tool is not applicable to the project)

• AM_Tool_07 version 02.1.0 "Tool to calculate the emission factor for an electricity system"

The applied methodology and tools please refer to the UNFCCC CDM website http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L/view.html

A.5. Crediting period of project activity

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Renewable crediting period

First renewable crediting period, 7 years starting from 25/08/2011

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity

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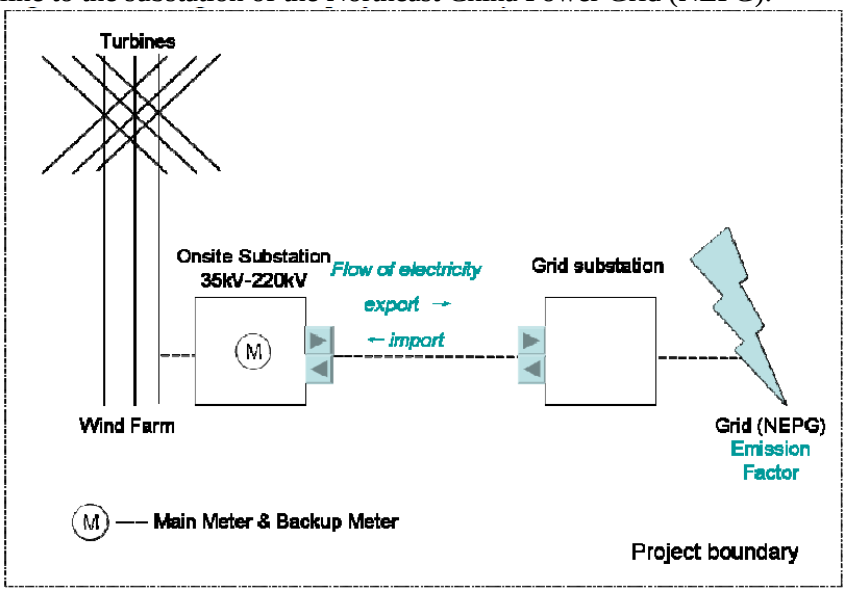
The project activity has an installed capacity of 49.5 MW. Total net annual generation of electricity is estimated to be 98,100MWh, with an average load factor of 22.6%. 33 sets of 1500kW Goldwind Techonology Co., Ltd. turbines were selected. The electricity is exported through the 220kV transmission line to the substation of the Northeast China Power Grid (NEPG).



During this monitoring period, the project had a smooth data transfer and good grid connection, and no special events happened.

B.2. Post registration changes

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

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The project is implemented as the registered PDD and no deviation applied to this monitoring period.

B.2.2. Corrections

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The project is implemented as the registered PDD and no correction applied to this monitoring period.

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

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The project is implemented as the registered PDD and no permanent changes.

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

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The project is implemented as the registered PDD and no changes.

B.2.5. Changes to start date of crediting period

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N/A

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

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N/A

SECTION C. Description of monitoring system

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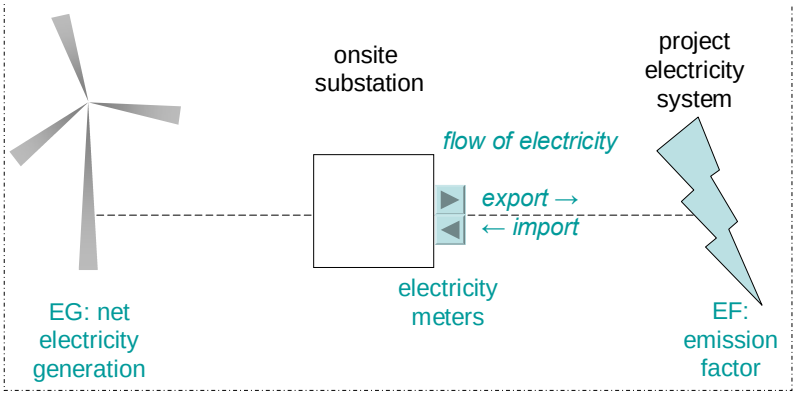
1. Monitoring system and data collection

The net electricity supplied by the proposed project activity to the grid ($EG_{facilityy}$) will be monitored through the main meter installed in the project on-site substation, recording exports to the grid ($EG_{export,y}$) and imports from the grid ($EG_{import,y}$). The net electricity supplied by the proposed project activity to the grid ($EG_{facility,y}$) is the difference of exports to the grid and imports from the grid ($EG_{export,y}$ - $EG_{import,y}$). The electricity meters measure continuously and accumulatively. The data is recorded monthly. A backup meter is also installed at the on-site substation. When the main meter fails to work normally, the readings of the back-up meter will be adopted.

The net electricity 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.

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



2. Information Flow

- The cut-off time is 24:00 of the last day of every month. The grid company supplies reading of the main meter to the wind farm monthly for confirmation purpose;
- The project owner records readings from the on-site meter monthly for cross check;
- The wind farm reports the readings to the DOE before the verification is requested;
- When the main meter is out of order, the data of backup meter is used for the project.

3. Organizational structure and responsibilities

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

4. 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.

Both meters shall be jointly inspected and sealed on behalf of the parties concerned and shall not be interfered with by either party except in the presence of the other party or its accredited representatives.

If any errors are detected the party owning the meter shall repair, recalibrate or replace the meter giving

the other party sufficient notice to allow a representative to attend during any corrective activity.

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/MWh**
Description	Emission factor which is ex-anted according to the applied methodology
Source of data	Registered PDD
Value(s) applied	1.0103
Purpose of data	Baseline emission calculation
Additional comment	N/A

D.2. Data and parameters monitored

Data/Parameter	$EG_{facility,y}$
Unit	**MWh**
Description	Net electricity supplied to the grid by the project in period y
Measured/Calculated /Default	Calculated from the data $EG_{export,y}$ and $EG_{import,y}$
Source of data	Monthly reading records of the main meter installed in the substation.
Value(s) of monitored parameter	Detailed monthly data and calculation is presented in section E1 of the monitoring report.
Monitoring equipment	N/A
Measuring/Reading/ Recording frequency	Measuring continuously/Recording monthly
Calculation method (if applicable)	$EG_{facility,y} = EG_{export,y} - EG_{import,y}$
QA/QC procedures	Cross check measurement results with records for sold electricity
Purpose of data	Baseline Emission calculation
Additional comment	N/A

<table>
<tr><td>Data/Parameter</td><td>EG_{export}</td></tr>
<tr><td>Unit</td><td>MWh</td></tr>
<tr><td>Description</td><td>Electricity supplied to the grid by the project</td></tr>
<tr><td>Measured/Calculated /Default</td><td>Measured</td></tr>
<tr><td>Source of data</td><td>Monthly data record based on the readings of Meters installed at Zhangdong 220kV substation</td></tr>
<tr><td>Value(s) of monitored parameter</td><td>Detailed monthly data and calculation is presented in section E1 of the monitoring report.</td></tr>
<tr><td>Monitoring equipment</td><td>
<table>
<tr><td></td><td>Main meter installed at the Zhangdong substation</td><td>Backup meter installed at the Zhangdong substation</td></tr>
<tr><td>Type</td><td>Digital electricity meter</td><td>Digital electricity meter</td></tr>
<tr><td>Accuracy class</td><td>0.2s</td><td>0.2s</td></tr>
<tr><td>Serial Number</td><td>96707202</td><td>96707203</td></tr>
<tr><td>Calibration frequency</td><td>Annually</td><td>annually</td></tr>
</table>
</td></tr>
<tr><td>Measuring/Reading/ Recording frequency</td><td>Measuring continuously/Recording monthly</td></tr>
<tr><td>Calculation method (if applicable)</td><td>N/A</td></tr>
<tr><td>QA/QC procedures</td><td>1. The export electricity supply to the grid is checked by receipt.
2. When the main meter fails to work normally, the readings of the back-up meter will be adopted.
3. All data collected as part of monitoring should be archived electronically and be kept at least for 2 years after the end of the last crediting period.
4. The main meter will be calibrated once per year by a qualified calibration organization in accordance with industry standards.</td></tr>
<tr><td>Purpose of data</td><td>Baseline Emission calculation</td></tr>
<tr><td>Additional comment</td><td>N/A</td></tr>
</table>

Data/Parameter	**EG_{import}**
Unit	**MWh**
Description	Electricity imported from the grid by the project and other wind power projects which share the same main meter with the project
Measured/Calculated /Default	Measured
Source of data	Monthly data record of main meter installed at Zhangdong 220kV substation
Value(s) of monitored parameter	Detailed monthly data and calculation is presented in section E1 of the monitoring report.
Monitoring equipment	
Measuring/Reading/ Recording frequency	Measuring continuously/Recording monthly
Calculation method (if applicable)	N/A
QA/QC procedures	1. The export electricity supply to the grid is checked by receipt. 2. When the main meter fails to work normally, the readings of the back-up meter will be adopted. 3. All data collected as part of monitoring should be archived electronically and be kept at least for 2 years after the end of the last crediting period. 4. The main meter will be calibrated once per year by a qualified calibration organization in accordance with industry standards.
Purpose of data	Baseline Emission calculation
Additional comment	N/A

	Main meter installed at the Zhangdong substation	Backup meter installed at the Zhangdong substation
Type	Digital electricity meter	Digital electricity meter
Accuracy class	0.2s	0.2s
Serial Number	96707202	96707203
Calibration frequency	Annually	annually

D.3. Implementation of sampling plan

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N/A

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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The baseline emissions in year *y* is calculated as,

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

Table1 the calculating of $EG_{facility,y}$ (Unit: MWh)

Period	EG_{export}	EG_{import}	$EG_{facility,y}$
25/08/2011 to 31/08/2011	715.176	4.752	710.424
01/09/2011 to 30/09/2011	5789.520	9.504	5780.016
01/10/2011 to 31/10/2011	7756.848	5.016	7751.832

01/11/2011 to 30/11/2011	4006.200	11.088	3995.112
01/12/2011 to 31/12/2011	175.032	8.712	166.320
01/01/2012 to 31/01/2012	3505.920	37.488	3468.432
01/02/2012 to 29/02/2012	7164.960	6.600	7158.360
01/03/2012 to 31/03/2012	9051.504	11.088	9040.416
01/04/2012 to 30/04/2012	4764.672	6.864	4757.808
01/05/2012 to 31/05/2012	15237.816	7.920	15229.896
Total	58167.648	109.032	58058.616

Table2 calculation of BE_y

Period		Net electricity supplied to the grid (EG_y)(MWh)	$EF_{grid, CM, y}$ (tCO_2e/MWh)	BE_y (tCO_2e)
Start	End	**F**	**G**	**H=F*G**
25/08/2011	31/05/2012	58058.616	1.0103	58,656

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

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

E.3. Calculation of leakage

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According to the applied methodology, as a renewable energy project, the leakage of this project is zero.

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_2e)	Project emissions or actual net GHG removals by sinks (tCO_{2e})	Leakage (tCO_2e)	Emission reductions or net anthropogenic GHG removals by sinks (tCO_2e)
Total	58,656	0	0	58,656

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

Item	Values estimated in ex-ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (tCO_2e)	76,301	58,656

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

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The actual emission reduction achieved during the current monitoring period is lower than it was estimated in registered PDD.

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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		