Monitoring report form (Version 03.1)

Monitoring report

Title of the project activity	Jilin Zhenlai Mali Wind Power Project
Reference number of the project activity	3314
Version number of the monitoring report	2.0
Completion date of the monitoring report	17/02/2013
Registration date of the project activity	19/07/2010
Monitoring period number and duration of this monitoring period	Monitoring period number: 2nd Duration: 26/04/2011 – 31/12/2012
Project participant(s)	Project Owner: Jilin Huaneng Renewable Energy Co., Ltd. CERs Buyer: Carbon Asset Management Sweden AB
Host Party(ies)	People's Republic of China
Sectoral scope(s) and applied methodology(ies)	Applied methodology: ACM0002 ver.09 Sectoral scope 1: Energy industries (renewable electricity in-grid connected application)
Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD	195,667 tCO_2
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	133,808 tCO_2

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

>>

The Jilin Zhenlai Mali Wind Power Project (hereafter refers to the Project) is located in Zhenlai County, Baicheng City, Jilin Province, P.R.China. It involves the installation of 33 turbines, each of which has a rated output of 1500kW, providing a total capacity of 49.5MW. The electricity generated is delivered to Northeast China Power Grid (NECPG).The purpose of the Project is to supply clean energy by using renewable wind resources. It will help reduce GHG emissions generated from the high-growth, coal-dominated power generation from NECPG which is dominant of fossil fuel fired power plants.The project generates GHG emission reductions by displacing electricity generation from grid connected fossil fuel-fired power plants that would otherwise be generating electricity needed. Relevant dates for the project activity is as below:

Construction start date	05/01/2009
Operation of 1st generator	27/10/2009
Operation of all generators	29/12/2009
Operation lifetime	20 years

The total emission reductions achieved in this monitoring period is 133,808 tCO_2.

A.2. Location of project activity

>>

The project site is located in Zhenlai County, Baicheng City, Jilin Province. The central geographical coordinates of project is longitude 123°08′09″E and latitude 45°49′38″N, where is 8km from the Zhenlai County. Figure A-1 and Figure A-2 shows the location of the Project.

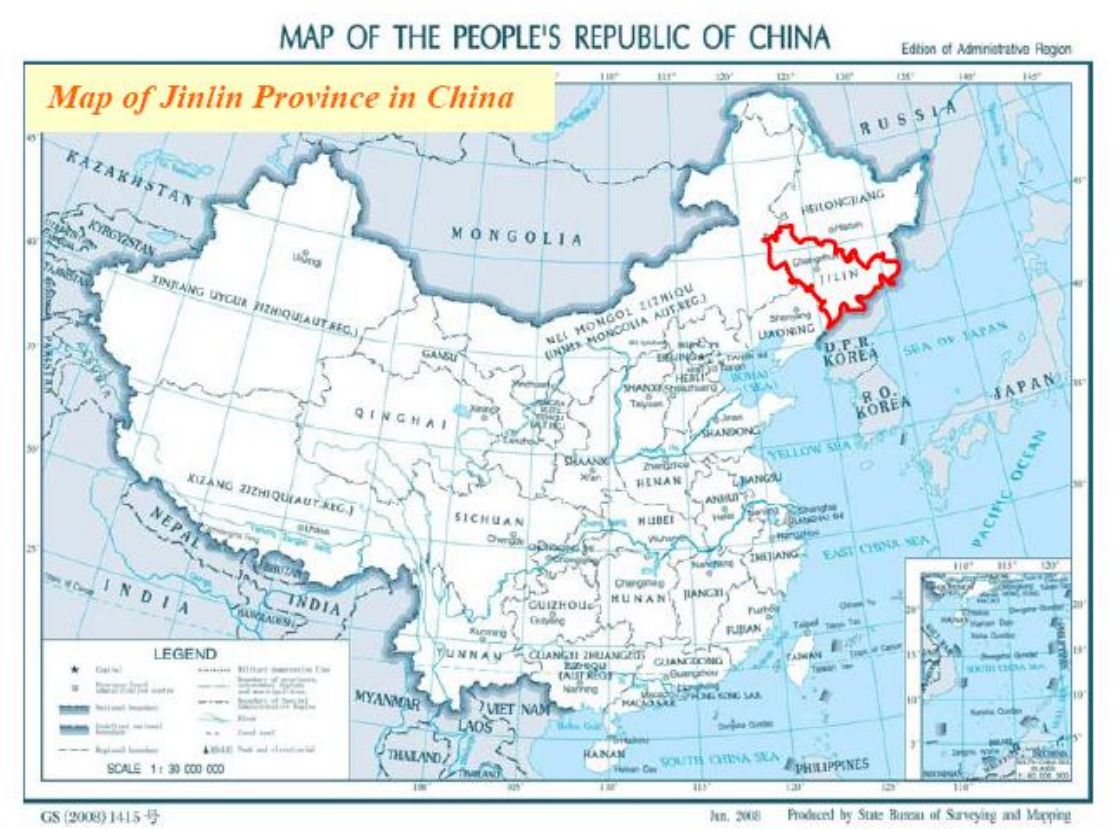

Figure A -1 Map of Jilin Province in China

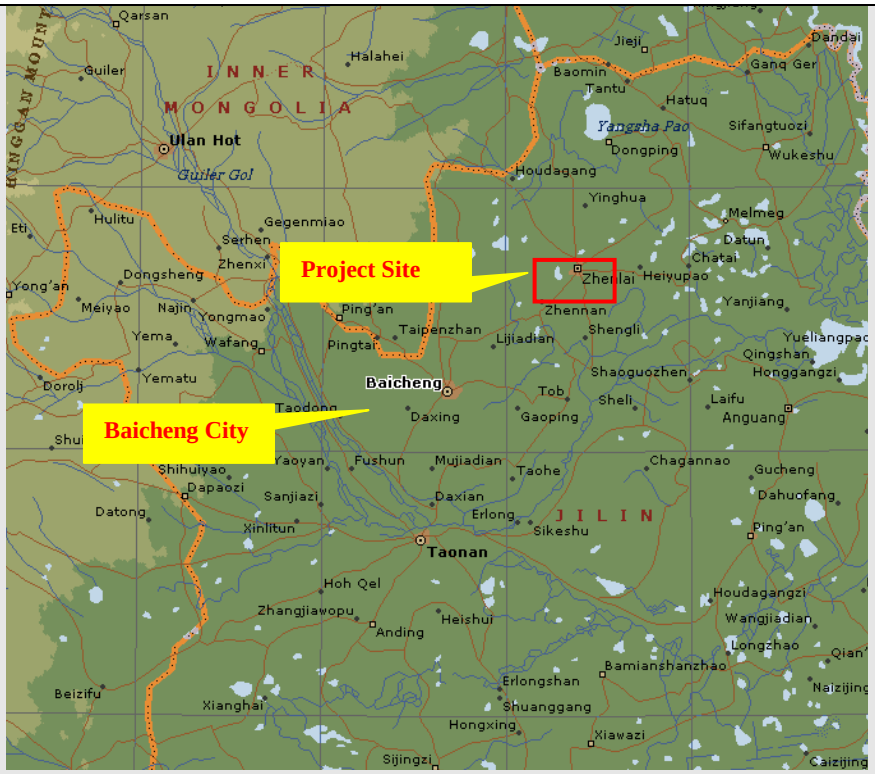

Figure A- 2: Location of the Project site

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)
People's Republic of China (host)	Jilin Huaneng Renewable Energy Co., Ltd.	No
Sweden	Carbon Asset Management Sweden AB	No

A.4. Reference of applied methodology

>>

The following approved baseline and monitoring methodology is applied to the proposed project:

The approved consolidated baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Version 09, EB45)
Tool for the demonstration and assessment of additionality (Version 05.2, EB39)
Guidelines on the assessment of investment analysis (Version 03, EB51)
Tool to calculate the emission factor for an electricity system (Version 02, EB50)

For more information on these methodologies, please refer to:
http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html

A.5. Crediting period of project activity

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19/07/2010 – 18/07/2017 (Renewable)

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity

>>

The project is implemented in strict accordance with the description in the registered PDD. No abnormal circumstance occurred during this monitoring period. The detailed implementation status is as follows:

1. Relevant dates for the project implementation is as below:

Construction start date	05/01/2009
Operation of 1st generator	27/10/2009
Operation of all generators	29/12/2009
Operation lifetime	20 years

2. No overhaul, down of equipment or exchange of equipment has been found during the monitoring period.
3. No event or situation that occurred during the monitoring period, which may impact the applicability of the methodology, has been found during the monitoring period.

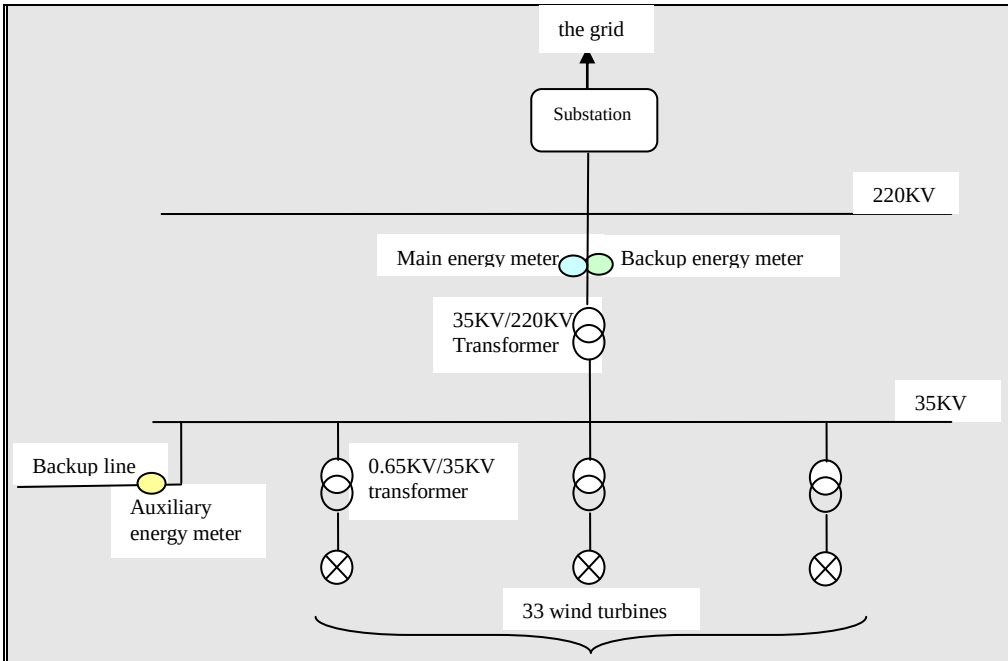
The Project activity involves installation of 33 wind turbines with each capacity of 1,500 kW, totals up an installation capacity of 49.5 MW. The lifetime of wind turbines is 20 years. The Project adopts a unit connection mode of one-turbine-one-transformer. Each turbine is equipped with a 35kV transformer. The full-load operation time of the Project is estimated to be 2,056 hours per year (PLF 23.47%), and thus contributes to net electricity output of 101,696MWh annually connected to NECPG.

Type of turbines is 77/1500 manufactured by Xinjiang Goldwind Science &Technology Co., Ltd., and Sinovel Wind Co., Ltd. Main technical parameters of the turbines are listed as Table 1 below.

Table 1. Main parameters of wind turbine employed by the Project

No.	Item	Unit	Value
1	Rated capacity	kW	1,500
2	Number of blades		3
3	Nominal wind speed	m/s	11
4	Cut in speed	m/s	3
5	Cut out speed	m/s	20
6	Hub height	m	70
7	Rated voltage of generator	v	690

The net electricity output can be monitored by a monitoring system installed at the Project site, which has been agreed by both project owner and grid company. The project diagram is as below:



The electricity will be finally upgraded to 220kV, and then connected to NECPG. The Project is to use the domestic equipment, and therefore won't involve in technology transfer.

B.2. Post registration changes

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

>>

There is no temporary deviation from registered monitoring plan or applied methodology.

B.2.2. Corrections

>>

There is no correction to this monitoring period.

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

>>

There is no permanent change from registered monitoring plan or applied methodology.

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

>>

There is no change to project design of registered project activity.

B.2.5. Changes to start date of crediting period

>>

There is no change to start date of crediting period.

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

>>

Not applicable.

SECTION C. Description of monitoring system

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1. Data to be monitored

As emission factor of the Project is determined ex-ante, the main data to be monitored includes electricity exports to the grid (NECPG) by the Project ($EG_{out,y}$) and the electricity imports from the grid via main line by the Project ($EG_{in,y}$) for operation, and auxiliary electricity imported from the grid through back up line in case of emergency ($EG_{aux,y}$).

Therefore, the net electricity output of the Project is calculated as $EG_y = EG_{out,y} - EG_{in,y} - EG_{aux,y}$

2. Operational and management structure for monitoring

The monitoring of the emission reductions will be carried out according to Figure C-1 below.

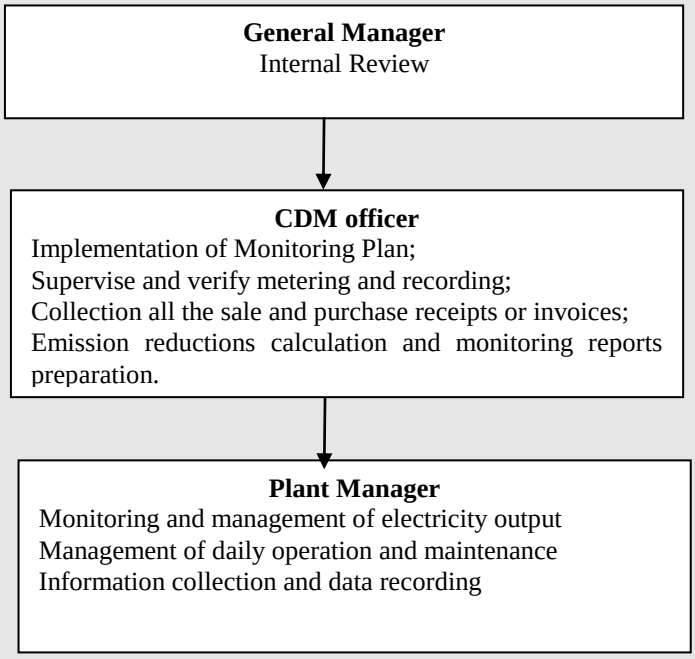

Figure C-1 the personnel structure of the project monitoring

Plant manager of wind farm is responsible to record and collect the information and data required by the Monitoring Plan. The required information and data are documented and sent to the CDM officer monthly. The CDM officer works out the monitoring plan, charges of its implementation and reports to the General Manager of the company. The General Manager of the company makes the confirmations on monitoring calculation data and reports.

3. Monitoring energy meters and installation:

The electricity exports ($EG_{out,y}$) to and imports ($EG_{in,y}$) from the grid via main line by the Project are

continuously monitored through the main energy meter installed at the project site. Also, a backup energy meter is installed beside the main energy meter for double checking in case of the erroneous of main energy meter occurred. Both main energy meter and backup energy meter have bidirectional function that can read the electricity exports ($EG_{out,y}$) to and imports ($EG_{in,y}$) from the grid, and precision of 0.2s.

In case of emergency, the backup line starts up to let the auxiliary electricity imported from the grid ($EG_{aux,y}$). The data is monitored by the auxiliary energy meter with precision of 0.5s installed at the backup line in the project site.

All the above energy meters are managed and operated by the grid company, which are installed in accordance with Technology & Management Regulations for Power Metering Devices. The accuracy of the energy meters are up to the national standard. Electricity data are cross-checked against relevant electricity sale receipts .The location of energy meters is shown in Figure C-2 below.

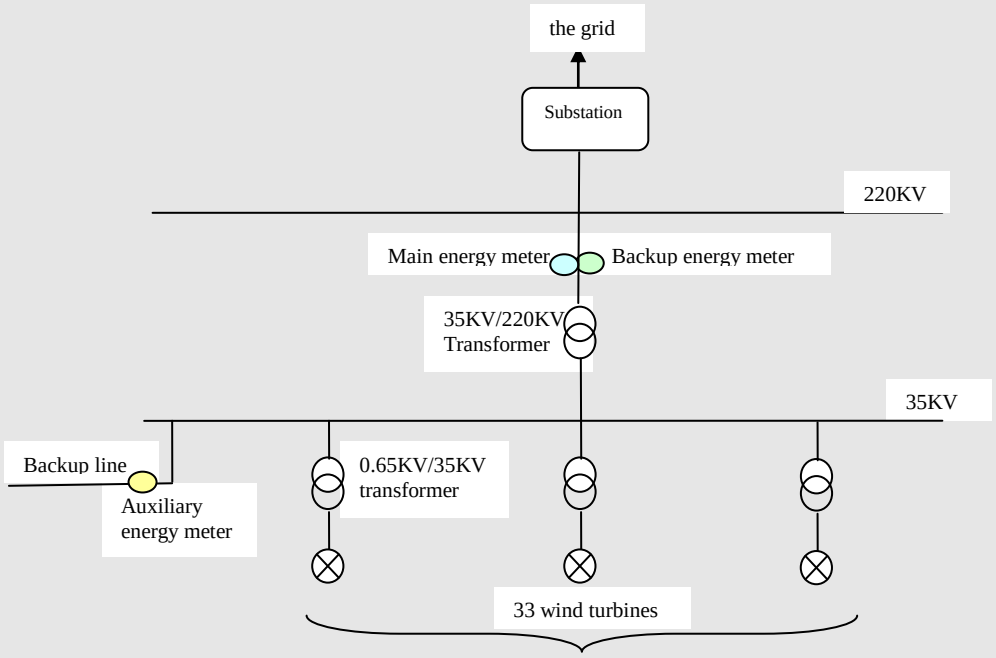

Figure C-2 Sketch for the location of the energy meters

4. Data monitoring

The electricity exported to and imported from the grid via main line ($EG_{out,y}$ and $EG_{in,y}$) are recorded by the main energy meter owned by the grid company, the monitoring steps are as follows:

(1) The Grid Company measures the electricity data of main energy meter continuously and record monthly, together with the project owner.
(2) The Grid Company provides the project owner with the monthly electricity export data and electricity import record;
(3) The project owner provides the Grid Company with sales receipts and preserves the copies of the sales receipts.
(4) The project owner provides DOE with readings record of the energy meter and copies of sales receipts.

In case of the back up line startup under emergency, the auxiliary energy meter installed in the project site for backup line is used to continuously measure the electricity imported from the backup line ($EG_{aux,y}$). The project owner and the grid company read and record the data monthly, and then the project owner provides the grid company with receipts and preserves the copies.

The electricity exported to and imported from the grid via main line ($EG_{out,y}$ and $EG_{in,y}$), and auxiliary electricity imported from the backup line ($EG_{aux,y}$) (if any) are used in the emission reduction calculation.

5. Quality Assurance and Quality Control

The calibration of meters conducted by qualified organization must comply with national standard and sectorial regulations to ensure the accuracy. The calibration records must be archived together with other monitoring records.

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

(a) first, by reading backup energy meter installed beside the main energy meter, unless a test by either party reveals it is inaccurate;
(b) if the backup energy meter is not within acceptable limits of accuracy or is otherwise performing improperly the project owner and grid company shall jointly prepare an estimate of the correct reading;
(c) if the Grid Company and the project owner fail to agree then the matter will be referred for arbitration according to agreed procedures.

If any previous reading of the auxiliary energy meter are inaccurate by more than the allowable error, or otherwise functioned improperly, the project owner and grid company shall jointly prepare an estimate of the correct reading of the auxiliary electricity imported form the grid. If the grid company and the project owner fail to agree then the matter will be referred for arbitration according to agreed procedures.

If any emergency occurred, after handling of the emergency the project owner must prepare a report regarding the emergency to explain to DOE that the handling method is reasonable.

For the proposed project, meter calibrations are conducted annually by qualified organization. According to the calibration report, all of the meters including main energy meter, backup energy meter and auxiliary energy meter meet the national standard and sectorial regulations during the monitoring period.
Additionally, main energy meter and auxiliary energy meter are working normally during the monitoring period. No abnormal case or emergency occurred such as reading of main meter and auxiliary meter is inaccurate or functioned improperly, so the reaction procedure mentioned above has not been launched for quality assurance and control.

6. Data Management System

All monitoring data and records will be archived in electronic document and paper document. The project owners will also keep copies of sales receipts and prepare a monitoring report at the time of verification, which includes the net electricity generation, the calibration records, the emission reductions calculation and energy meters' corrective action records.

All the electronic and paper documents will be archived during the crediting period and two years after.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Data / Parameter:	*EF*
Unit:	tCO_2e/MWh
Description:	Combined emission factor of the grid
Source of data:	China Electric Power Yearbook
Value(s) applied):	1.143775
Purpose of data:	For baseline emission calculation
Additional comment:	This parameter is ex ante determined in PDD and fixed during the first crediting period.

D.2. Data and parameters monitored

Data / Parameter:	$EG_{out,y}$
Unit:	MWh
Description:	Annual electricity export to NECPG by the Project in year y.
Measured/ Calculated / Default:	Directly measured
Source of data:	Monitored by the main energy meter
Value(s) of monitored parameter:	Details showed in Table E-1

Monitoring equipment:	The main energy meter is a bidirectional meter Operation period: 26/04/2011-24/11/2011[1] Type: ZMD402CT44 Accuracy class: 0.2S Serial number: 78040208 Calibration frequency: annually Dates of last calibration: 06/07/2010 05/07/2011 Calibration validity: one year 06/07/2010 ~ 05/07/2011 05/07/2011 ~ 04/07/2012 Operation period: 25/11/2011-31/12/2012 Type: ZMD402CT44 Accuracy class: 0.2S Serial number: 96917077 Calibration frequency: annually Dates of last calibration: 24/11/2011 05/03/2012 Calibration validity: one year 24/11/2011 ~ 23/11/2012 05/03/2012 ~ 04/03/2013 The back-up energy meter is a bidirectional meter. The backup energy meter will be used for double checking in case of the erroneous of main energy meter occurred. Operation period: 26/04/2011-24/11/2011 Type:ZMD402CT44 Accuracy class: 0.2S Serial number: 78040191 Calibration frequency: annually Dates of last calibration: 06/07/2010 05/07/2011 Calibration validity: one year 06/07/2010 ~ 05/07/2011 05/07/2011 ~ 04/07/2012 Operation period: 25/11/2011-31/12/2012 Type:ZMD402CT44 Accuracy class: 0.2S Serial number: 96917078 Calibration frequency: annually Dates of last calibration: 24/11/2011 05/03/2012 Calibration validity: one year 24/11/2011 ~ 23/11/2012 05/03/2012 ~ 04/03/2013	
Measuring/ Reading/ Recording frequency:	Measuring: continued Recording: monthly	

[1] The main energy meter and back-up energy meter were replaced to new ones at the project site on 24/11/2011.

Calculation method (if applicable):	-
QA/QC procedures:	Sales receipts will be used for double check to ensure the consistency. The energy meter will be calibrated according to the industry standard by a qualified organization to ensure accuracy.
Purpose of data:	For baseline emission calculation
Additional comment:	-

Data / Parameter:	$EG_{in,y}$
Unit:	MWh
Description:	Annual electricity imports from NECPG by the Project for operation.
Measured/ Calculated / Default:	Directly measured
Source of data:	Monitored by the main energy meter
Value(s) of monitored parameter:	Details showed in Table E-2

Monitoring equipment:	The main energy meter is a bidirectional meter Operation period: 26/04/2011-24/11/2011 Type: ZMD402CT44 Accuracy class: 0.2S Serial number: 78040208 Calibration frequency: annually Dates of last calibration: 06/07/2010 05/07/2011 Calibration validity: one year 06/07/2010 ~ 05/07/2011 05/07/2011 ~ 04/07/2012 Operation period: 25/11/2011-31/12/2012 Type: ZMD402CT44 Accuracy class: 0.2S Serial number: 96917077 Calibration frequency: annually Dates of last calibration: 24/11/2011 05/03/2012 Calibration validity: one year 24/11/2011 ~ 23/11/2012 05/03/2012 ~ 04/03/2013 The back-up energy meter is a bidirectional meter. The backup energy meter will be used for double checking in case of the erroneous of main energy meter occurred. Operation period: 26/04/2011-24/11/2011 Type:ZMD402CT44 Accuracy class: 0.2S Serial number: 78040191 Calibration frequency: annually Dates of last calibration: 06/07/2010 05/07/2011 Calibration validity: one year 06/07/2010 ~ 05/07/2011 05/07/2011 ~ 04/07/2012 Operation period: 25/11/2011-31/12/2012 Type:ZMD402CT44 Accuracy class: 0.2S Serial number: 96917078 Calibration frequency: annually Dates of last calibration: 24/11/2011 05/03/2012 Calibration validity: one year 24/11/2011 ~ 23/11/2012 05/03/2012 ~ 04/03/2013	
Measuring/ Reading/ Recording frequency:	Measuring: continued Recording: monthly	
Calculation method (if applicable):	-	

QA/QC procedures:	Electricity purchase receipts will be used for double check to ensure the consistency. The energy meter will be calibrated according to the industry standard by a qualified organization to ensure accuracy.
Purpose of data:	For baseline emission calculation
Additional comment:	-

Data / Parameter:	$EG_{aux,y}$
Unit:	MWh
Description:	Auxiliary electricity imported from NECPG through backup line in emergency situation during operation period in year y.
Measured/ Calculated / Default:	Directly measured
Source of data:	Monitored by the energy meter
Value(s) of monitored parameter:	Details showed in Table E-3
Monitoring equipment:	Type: DSSD71 Accuracy class: 0.5S Serial number: 0600193049 Dates of last calibration: 02/01/2011 01/01/2012 Calibration validity: one year 02/01/2011 ~ 01/01/2012 01/01/2012 ~ 31/12/2012
Measuring/ Reading/ Recording frequency:	Measuring: Continued Recording: monthly
Calculation method (if applicable):	-
QA/QC procedures:	Meters will be calibrated according to the relevant national standard. Data measured by the main revenue meter will be cross checked using electricity purchase receipts.
Purpose of data:	For baseline emission calculation
Additional comment:	-

D.3. Implementation of sampling plan

>>
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

>>

The baseline emission *BE* during the monitoring period results from:

$BE=(EG_{out,y} - EG_{in,y} - EG_{aux,y}) \times EF$

Where

$EG_{out,y}$	=	electricity exported to NECPG by the Project during the monitoring period
$EG_{in,y}$	=	electricity imported from NECPG by the Project during the monitoring period
$EG_{aux,y}$	=	electricity imported from NECPG through backup line during the monitoring period
EF	=	emission factor of the grid (calculated ex-ante and will not be updated during the first crediting period)

Based on the metering data, the net electricity supplied to the grid during the monitoring period will be calculated. In order to improve the reliability of the electricity data, net electricity delivered to the grid which is recorded by Electricity Sales Receipts (ESR) have also been compared. Conservative value between the meter reading and the ESR is used. The monthly data has been listed in Table E-1, table E-2 and table E-3 as following:

Table E-1 The electricity exported to the Grid

Period	$EG_{out,y}$ Electricity export to the Grid(MWh)			
	By Meter Reading	By Electricity Sales Receipts	The lower value between meter readings and ESR	Data for CER calculation
	A	B	C=Min(A,B)	D=C
26/04/2011-24/05/2011[2]	9929.04	9930.00	9929.04	9929.04
25/05/2011-24/06/2011	6042.09	6040.00	6040.00	6040.00
25/06/2011-24/07/2011	4016.31	4020.00	4016.31	4016.31
25/07/2011-24/08/2011	3186.30	3190.00	3186.30	3186.30
25/08/2011-24/09/2011	5988.42	5990.00	5988.42	5988.42
25/09/2011-24/10/2011	9211.07	9210.00	9210.00	9210.00
25/10/2011-24/11/2011	5844.96	5840.00	5840.00	5840.00
25/11/2011-24/12/2011	4237.41	4230.00	4230.00	4230.00
25/12/2011-19/01/2012	2403.38	2400.00	2400.00	2400.00
19/01/2012-24/02/2012	6226.97	6220.00	6220.00	6220.00
25/02/2012-24/03/2012	6870.89	6870.00	6870.00	6870.00
25/03/2012-24/04/2012	9650.31	9650.00	9650.00	9650.00
25/04/2012-24/05/2012	8436.73	8440.00	8436.73	8436.73
25/05/2012-24/06/2012	3927.26	3920.00	3920.00	3920.00
25/06/2012-24/07/2012	5070.86	5070.00	5070.00	5070.00
25/07/2012-24/08/2012	5163.92	5160.00	5160.00	5160.00
25/08/2012-24/09/2012	4726.95	4730.00	4726.95	4726.95
25/09/2012-24/10/2012	7102.52	7100.00	7100.00	7100.00
25/10/2012-24/11/2012	5852.56	5850.00	5850.00	5850.00
25/11/2012-24/12/2012	3283.98	3280.00	3280.00	3280.00
25/12/2012-31/12/2012[3]	615.60	615.60	615.60	615.60
Total	117787.51	117755.60	117739.33	117739.33

[2] Although the meter reading and electricity sales receipts are calculated and settled monthly, it is reasonable to exclude the electricity generated on April 25, 2011 for emission reduction calculation because the proposed project did not generate electricity on that day for no wind as per the daily operating record of the proposed project.

[3] The meter reading record on Dec. 31, 2012 was approved by Jilin Power Supply Trade Center.

Table E-2 The electricity imported from the Grid

Period	$EG_{in,y}$ Electricity import from the Grid(MWh)			
	By Meter Reading	By Electricity Purchase Receipts	The lower value between meter readings and EPR	Data for CER calculation
	A	B	C=Max(A,B)	D=C
26/04/2011-19/05/2011[4]	0.00	0.00	0.00	0.00
20/05/2011-19/06/2011	31.68	31.68	31.68	31.68
20/06/2011-19/07/2011	36.96	36.96	36.96	36.96
20/07/2011-19/08/2011	50.16	50.16	50.16	50.16
20/08/2011-19/09/2011	50.16	50.16	50.16	50.16
20/09/2011-19/10/2011	21.12	21.12	21.12	21.12
20/10/2011-19/11/2011	39.60	39.60	39.60	39.60
20/11/2011-19/12/2011	40.29	40.29	40.29	40.29
20/12/2011-19/01/2011	78.09	78.09	78.09	78.09
20/01/2012-19/02/2012	39.68	39.68	39.68	39.68
20/02/2012-19/03/2012	27.22	27.22	27.22	27.22
20/03/2012-19/04/2012	11.77	11.77	11.77	11.77
20/04/2012-19/05/2012	18.56	18.56	18.56	18.56
20/05/2012-19/06/2012	42.24	42.24	42.24	42.24
20/06/2012-19/07/2012	33.00	33.00	33.00	33.00
20/07/2012-19/08/2012	35.27	35.27	35.27	35.27
20/08/2012-19/09/2012	24.42	24.42	24.42	24.42
20/09/2012-19/10/2012	23.15	23.15	23.15	23.15
20/10/2012-19/11/2012	41.37	41.37	41.37	41.37
20/11/2012-19/12/2012	49.53	49.53	49.53	49.53
20/12/2012-31/12/2012[5]	21.78	21.78	21.78	21.78
Total	716.05	716.05	716.05	716.05

Table E-3 The electricity imported from the backup line

Period	$EG_{aux,y}$ Electricity import from the Grid(MWh)			
	By Meter Reading	By Electricity Purchase Receipts	The lower value between meter readings and EPR	Data for CER calculation
	A	B	C=Max(A,B)	D=C
25/04/2011-24/05/2011[6]	1.78	1.78	1.78	1.78
25/05/2011-24/06/2011	2.41	2.41	2.41	2.41

[4] The import electricity during 26/04/2011-19/05/2011 has already been subtracted for CERs calculation in the first issuance request monitoring report of the Project for crediting period 19 Jul 2010 - 25 Apr 2011, see http://cdm.unfccc.int/Projects/DB/RWTUV1264167517.65/view, so here it is assumed to be zero to avoid repeated minus.

[5] The meter reading record on Dec. 31, 2012 was approved by Jilin Power Supply Trade Center.

[6] Although the starting date of this monitoring period is April 26, 2011, the meter reading and electricity sales receipts are calculated and settled monthly, and the electricity imported from the Grid on April 25, 2011 could not be listed separately. It is more conservative to calculate the electricity imported from the backup line with start date of April 25, 2011.

25/06/2011-24/07/2011	3.65	3.65	3.65	3.65
25/07/2011-24/08/2011	4.73	4.73	4.73	4.73
25/08/2011-24/09/2011	1.92	1.92	1.92	1.92
25/09/2011-24/10/2011	1.87	1.87	1.87	1.87
25/10/2011-24/11/2011	1.75	1.75	1.75	1.75
25/11/2011-24/12/2011	6.96	6.96	6.96	6.96
25/12/2011-19/01/2012	2.08	2.08	2.08	2.08
19/01/2012-24/02/2012	0.72	0.72	0.72	0.72
25/02/2012-24/03/2012	0.52	0.52	0.52	0.52
25/03/2012-24/04/2012	0.49	0.49	0.49	0.49
25/04/2012-24/05/2012	0.51	0.51	0.51	0.51
25/05/2012-24/06/2012	0.52	0.52	0.52	0.52
25/06/2012-24/07/2012	0.52	0.52	0.52	0.52
25/07/2012-24/08/2012	2.15	2.15	2.15	2.15
25/08/2012-24/09/2012	0.58	0.58	0.58	0.58
25/09/2012-24/10/2012	0.52	0.52	0.52	0.52
25/10/2012-24/11/2012	0.56	0.56	0.56	0.56
25/11/2012-24/12/2012	0.50	0.50	0.50	0.50
25/12/2012-31/12/2012[7]	0.11	0.11	0.11	0.11
Total	34.83	34.83	34.83	34.83

From electricity data list as above, the net electricity delivered to the grid which has been confirmed by Grid Company is: $EG = EG_{out,y} - EG_{in,y} - EG_{aux,y}$ = 117739.33-716.05-34.83 =116,988.45 MWh.

Therefore, the baseline emission could be calculated as following, based on the baseline emission factor fixed in the first crediting period.

$BE_y = EG_y \times EF_y$ = 116,988.45 MWh ×1.143775 tCO_2e/MWh = **133,808 tCO_2e**

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

>>
According to the PDD of the project, the project emission is zero. $PE = 0$.

E.3. Calculation of leakage

>>
According to the PDD of the project, the leakage is not considered. $LE = 0$.

E.4. Summary of calculation of emission reductions or net anthropogenic GHG removals by sinks

Item	Baseline emissions or baseline net GHG removals by sinks (t CO_2e)	Project emissions or actual net GHG removals by sinks (t CO_2e)	Leakage (t CO_2e)	Emission reductions or net anthropogenic GHG removals by sinks (t CO_2e)
Total	133,808	0	0	133,808

[7] The meter reading record on Dec. 31, 2012 was approved by Jilin Power Supply Trade Center.

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 (t CO_2e)	195,667 (614 days)	133,808 (614 days)

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

>>
As per the registered PDD, the estimated emission reduction of 614 days is 195,667 tCO_2, which is calculated from BE_y =116,317 tCO_2×614days /365days. The emission reduction of 614 days generated in this monitoring period is reported as 133,808 tCO_2 which is lower than the estimated value of PDD.

E.7. Actual emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Item	Actual values achieved up to 31 December 2012	Actual values achieved from 1 January 2013 onwards
Emission reductions or GHG removals by sinks (t CO_2e)	133,808	/

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Document information

Version	*Date*	*Description*
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net anthropogenic GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01	28 May 2010	EB 54, Annex 34. Initial adoption.

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