



**Monitoring report form for CDM project activity
(Version 06.0)**

Complete this form in accordance with the instructions attached at the end of this form.

MONITORING REPORT

Title of the project activity	Inner Mongolia Wuliji Wind Farm Project	
UNFCCC reference number of the project activity	2483	
Version number of the PDD applicable to this monitoring report	Version 03	
Version number of this monitoring report	01	
Completion date of this monitoring report	08/08/2018	
Monitoring period number	Fourth monitoring period	
Duration of this monitoring period	21/01/2013 – 14/03/2017 (first and last days included)	
Monitoring report number for this monitoring report	NA	
Project participants	CGN Wind Power Co., Ltd. (as the project owner) Carbon Resource Management Ltd. (as the CER buyer) Carbon Resource Management S.A. (as the CER buyer)	
Host Party	People's Republic of China	
Sectoral scopes	1: Energy industries (renewable sources)	
Applied methodologies and standardized baselines	Approved consolidated baseline and monitoring methodology ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources" (Version 09, Sectoral Scope 01)	
Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period	Amount achieved before 1 January 2013	Amount achieved from 1 January 2013
	0	464,566
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	514,660	

SECTION A. Description of project activity

A.1. General description of project activity

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Inner Mongolia Wuliji Wind Farm Project is generating renewable electricity utilizing wind power and sells the generated output to the North China Power Grid (NCPG). Based on the conditions of the project site, the project activity has installed 40 wind turbines, each with a capacity of 1.25MW. The total installed capacity of the project activity is 50MW. The ex-ante expected net generation of the project activity is approximately 117,630 MWh per year, with a load factor of 26.86%.

As the NCPG is dominated by thermal power generation, the establishment of the Project leads to greenhouse gas (GHG) emission reductions. Following the baseline methodology, the emission reductions are estimated to be approximately 124,076 tonnes of CO₂ equivalent (tCO₂e) per year.

The project will assist China in stimulating and accelerating the commercialization of grid-connected wind power technologies and markets which are an important objective of the Chinese government. The project will therefore help reduce GHG emissions versus the high-growth, coal-dominated business-as usual scenario. Furthermore, the project will improve air quality and local livelihoods, promote sustainable renewable energy industry development.

The project activity was started construction on 02/09/2008. The first turbine was commissioned on 13/09/2009, and all the wind turbines have been put into operation gradually till 24/10/2009, and well operated during this monitoring period. During the 4th monitoring period from 21/01/2013-14/03/2017, the total emission reduction is 464,566 tCO₂e.

A.2. Location of 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.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
People's Republic of China (host party)	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

A.4. Reference to applied methodologies and standardized baselines

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The approved methodology applied in the proposed project activity is *ACM0002 Consolidated baseline methodology for grid-connected electricity generation from renewable sources* (Version 09)

Tools referenced in this methodology:

"Tool for the demonstration and assessment of additionality", version 05.2. (EB 39)

"Tool to calculate the emission factor for an electricity system", version 01.1 (EB 35)

Reference:

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

A.5. Crediting period type and duration

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Crediting period	Renewable crediting period (7 years x3)
Starting date of crediting period	15/03/2010
End date of crediting period	14/03/2017

SECTION B. Implementation of project activity

B.1. Description of implemented project activity

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The project activity was started construction on 20/09/2008. The first turbine was commissioned on 13/09/2009, and all the wind turbines have been put into operation gradually till 24/10/2009. During this monitoring period, the project keeps a normal operation situation and has a smooth data transfer and grid connection. All the equipments and metering systems worked normally. There was no significant malfunction or any emergency overhaul, downtimes of equipment, exchange of equipment during this monitoring period. In conclusion, no special event occurred which may impact the applicability of the methodology.

B.2. Post-registration changes

B.2.1. Temporary deviations from the registered monitoring plan, applied methodologies or standardized baselines

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There is no any temporary deviations have been applied during this monitoring period.

B.2.2. Corrections

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There is no any corrections to project information or parameters fixed at validation have been approved during this monitoring period.

B.2.3. Changes to the start date of the crediting period

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There is no change for the start date of the crediting period.

B.2.4. Inclusion of monitoring plan

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NA

B.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools

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

B.2.6. Changes to project design

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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 monitoring system

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1. Monitoring subject

The main data monitored are the net electricity generation delivered to the grid by the project.

2. Monitoring management structure

In order to obtain reliable monitoring data, the project developer will establish a monitoring management framework prior to the starting of the crediting period. Clear responsibilities will be assigned to all staff involved in the CDM project. A monitoring director will be 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 detailed structure is as follows:

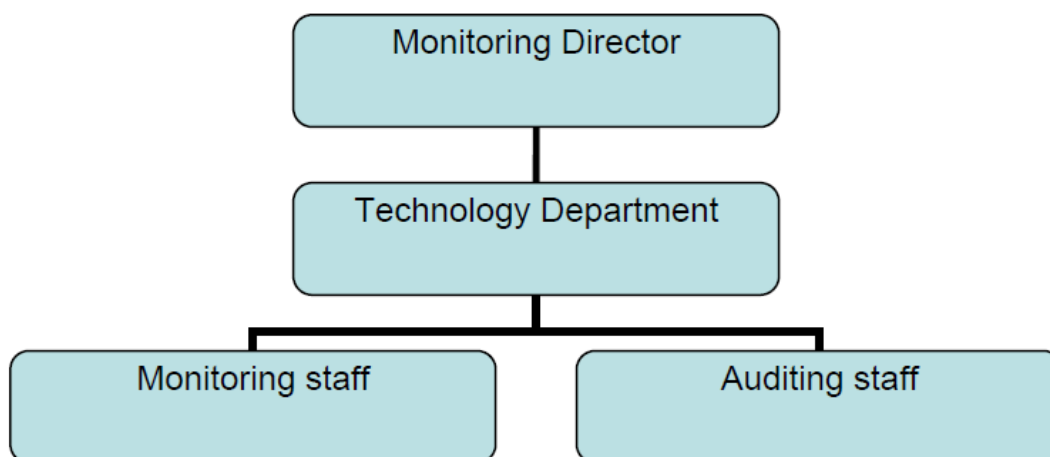


Figure 1. CDM management structure of the project

3. Monitoring apparatus and installation:

The proposed project shares the same transformer, substation or transmission line with some other wind farms; appropriate additional meters are installed at the project site so that the electricity generation can be monitored for each wind farm separately so as to calculate the share of this wind farm of the net supply to the grid.

The net electricity supplied by the project activity (EG_y) is calculated as follows:

$$EG_y = EG_{total} * E_{project} / (E_{project} + E_{others})$$

$$EG_{total} = EG_{export_total} - EG_{import_total}$$

Where:

EG_y is the quantity of net electricity supplied to the grid by the Project in period y;

EG_{total} is the total net electricity supplied to the grid based on the data metered by the main meter;

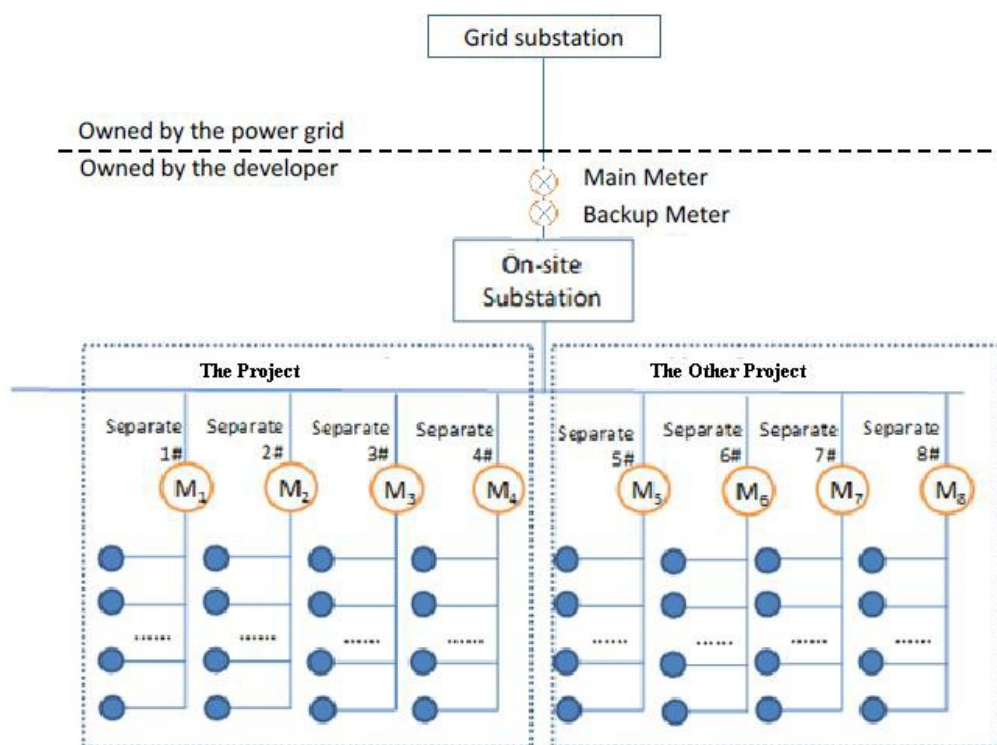
$E_{project}$ is the electricity generation from the project activity metered by the separate meters;

E_{others} is the electricity generation from other projects metered by the other separate meters;

EG_{export_total} is the quantity of annual electricity exported to the grid by the project and other wind farm project;

EG_{import_total} is quantity of annual electricity imported from the grid by the project and other wind farm project.

The separate meters M1~M8 are installed at the project site so that the electricity generation can be monitored for each wind farm separately so as to calculate the share of this wind farm of the total net electricity exported to the grid. M1~M4 are installed in Line1#~4# respectively to monitor the generation from the Project; M5~M8 are installed in Line5#~8# respectively to monitor the generation from other wind farm project. The location of the meters in relation to the grid, project, and other project transmission lines are displayed as following diagram:



The generation and consumption data as recorded by the grid company and the project company, and provided to the project developer, will be cross-checked against sales receipts.

4. Data monitoring

The readings of the main meter and separate meters are used for calculating the emission reductions when the main meter and separate meters are in normal operation state. The monitoring processes are as follows:

- (1) The meter readings from the main meter and separate meters are recorded daily;
- (2) 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;
- (3) The project developer provides the power grid company with a settling accounts sheet about the net electricity supplied to the grid monthly;
- (4) The project developer provides the power grid company with a sale receipt after the power grid company has confirmed the settling accounts sheet, and archives a copy of the sale receipt;
- (5) The project developer provides the DOE with the readings of the main meter at onsite substation and separate meters at project site and the copy of sale receipt.

5. Quality control

1) Calibration of meters

The calibration of meters is conducted by a qualified organization in compliance with the national standard and sectional regulations to ensure the accuracy. The meters will be calibrated once per year. The meters must be sealed after calibration.

The calibration records must be archived together with other monitoring records. When the main meter or back-up meter have a breakdown, the party finding the breakdown should tell another party and inform the qualified calibration organization to check, calibrate, test and treat the meter so as to recover the normal monitoring state.

2) Emergency treatment

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

- (1) When one of the main meter and back-up has a breakdown, the readings of the other meter will be adopted;
- (2) If both the main meter and back-up meter have breakdowns, the project company and power company shall jointly prepare a reasonable and conservative estimate of the correct reading, and provide sufficient evidence that this estimation is reasonable and conservative.
- (3) If separate meters have breakdowns, the project company and power company shall jointly prepare a reasonable and conservative estimate of the correct reading, and provide sufficient evidence that this estimation is reasonable and conservative.

6. Data management

All monitoring data and records will be archived in electronic format as well as on paper. The electronic documents will be backed up on compact disc or hard disc. The project developer will also keep copies of sale receipts and prepare a monitoring report at the end of each year, which includes the net electricity generation, the monitoring data summary, the calibration records, and the emission reductions calculation.

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

7. Training program

The project developer will train all related staff before the start of the crediting period. The training contains CDM knowledge, operational regulations, quality control (QC), data monitoring requirements and data management regulations, etc.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante

(Copy this table for each data or parameter.)

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	1.0548
Choice of data or measurement methods and procedures	NA
Purpose of data/parameter	Baseline emission calculation
Additional comments	The baselines emission factor was determined ex ante and will be used throughout the first crediting period.

D.2. Data and parameters monitored

(Copy this table for each data or parameter.)

Data/Parameter	EG _y
Unit	MWh
Description	Net electricity supplied to the grid by the Project in period y
Measured/calculated/default	Calculated as the formula in Section C
Source of data	Monthly reading records of the main meter and separate meters

Value(s) of monitored parameter	440,430.64
Monitoring equipment	-
Measuring/reading/recording frequency	Continuously measurement and monthly recording
Calculation method (if applicable)	Calculated as the formula in Section C
QA/QC procedures	<ol style="list-style-type: none"> 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 onsite substation to check the main meter. 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.
Purpose of data/parameter	Baseline emission calculation
Additional comments	-

Data/Parameter	EG _{export total}
Unit	MWh
Description	Quantity of annual electricity exported to the grid by the project and other wind farm project
Measured/calculated/default	Measured by the main meter
Source of data	Monthly reading records of the main meter and separate meters
Value(s) of monitored parameter	846,522.68
Monitoring equipment	The quantity of annual electricity exported to the grid will be monitored continuously through the main meter installed at onsite substation. The accuracy of the meters will be at least 0.5S, meeting the national standard.
Measuring/reading/recording frequency	Continuously measurement and monthly recording
Calculation method (if applicable)	NA
QA/QC procedures	<ol style="list-style-type: none"> 1. The electricity exported 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 onsite substation to check the main meter. 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.
Purpose of data/parameter	Baseline emission calculation
Additional comments	-

Data/Parameter	EG _{import total}
Unit	MWh

Description	Quantity of annual electricity imported from the grid by the project and other wind farm project
Measured/calculated/default	Measured by the main meter
Source of data	Monthly reading records of the main meter and separate meters
Value(s) of monitored parameter	3,652.21
Monitoring equipment	The quantity of annual electricity imported from the grid will be monitored continuously through the main meter installed at onsite substation. The accuracy of the meters will be at least 0.5S, meeting the national standard.
Measuring/reading/recording frequency	Continuously measurement and monthly recording
Calculation method (if applicable)	NA
QA/QC procedures	1. The electricity imported from 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 onsite substation to check the main meter. 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.
Purpose of data/parameter	Baseline emission calculation
Additional comments	-

Data/Parameter	E_{project}
Unit	MWh
Description	Quantity of electricity generation from the project activity
Measured/calculated/default	Measured by the separate meters (M1, M2, M3, M4) installed at project site
Source of data	Monthly reading records of the main meter and separate meters
Value(s) of monitored parameter	451,348.46
Monitoring equipment	The quantity of electricity generation from the project activity will be monitored continuously through the separate meters (M1, M2, M3, M4) installed at project site. The accuracy of the meters will be at least 0.5S, meeting the national standard.
Measuring/reading/recording frequency	Continuously measurement and monthly recording
Calculation method (if applicable)	NA
QA/QC procedures	1. 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). 2. The data will be kept during the crediting period and until two years after the end of the crediting period.
Purpose of data/parameter	Baseline emission calculation
Additional comments	-

Data/Parameter	E _{others}
Unit	MWh
Description	Quantity of electricity generation from other projects
Measured/calculated/default	Measured by other separate meters (M5, M6, M7, M8) installed at project site
Source of data	Monthly reading records of the main meter and separate meters
Value(s) of monitored parameter	412,476.68
Monitoring equipment	The quantity of electricity generation from other projects will be monitored continuously through the other separate meters (M5, M6, M7, M8) installed at project site. The accuracy of the meters will be at least 0.5S, meeting the national standard.
Measuring/reading/recording frequency	Continuously measurement and monthly recording
Calculation method (if applicable)	NA
QA/QC procedures	1. 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). 2. The data will be kept during the crediting period and until two years after the end of the crediting period.
Purpose of data/parameter	Baseline emission calculation
Additional comments	-

D.3. Implementation of sampling plan

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NA

SECTION E. Calculation of emission reductions or net anthropogenic removals

E.1. Calculation of baseline emissions or baseline net removals

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In accordance with the ACM0002, Baseline emissions are calculated according to the following formula:

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

Where:

BE_y = Baseline emissions in year y (tCO₂/yr).

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

$EF_{\text{grid,CM,y}}$ = Combined margin emission coefficient calculated using the “Tool to calculate the emission factor for an electricity system” .

The net electricity supplied to the grid by the project activity in the 4th monitoring period:

Period		Electricity generation of the project activity metered by the separate meters (MWh)				E _{project} (MWh)
		#1	#2	#3	#4	Total
start	end	A	B	C	D	E=A+B+C+D
2013/1/21	2013/2/20	2251.30	2254.01	2040.37	2651.74	9,197.42
2013/2/21	2013/3/20	1144.71	1209.88	1097.02	1336.37	4,787.98
2013/3/21	2013/4/20	2163.43	2293.75	1969.47	2470.24	8,896.89
2013/4/21	2013/5/20	2762.58	2863.08	2568.18	2990.16	11,184.00
2013/5/21	2013/6/20	2855.62	2905.95	2653.04	3396.16	11,810.77
2013/6/21	2013/7/20	2275.64	2321.45	2129.44	2487.46	9,213.99
2013/7/21	2013/8/20	1855.44	1830.43	1729.95	2131.48	7,547.30
2013/8/21	2013/9/20	2356.55	2478.56	2178.15	2691.94	9,705.20
2013/9/21	2013/10/20	2475.64	2589.07	2283.91	2791.83	10,140.45
2013/10/21	2013/11/20	2190.83	2313.54	2015.93	2585.07	9,105.37
2013/11/21	2013/12/20	2722.12	2788.72	2602.61	3094.67	11,208.12
2013/12/21	2014/1/20	2713.91	2856.98	2627.80	3137.91	11,336.60
2014/1/21	2014/2/20	3084.47	3188.90	2864.40	3434.20	12,571.97
2014/2/21	2014/3/20	1180.71	1147.06	1090.28	1261.76	4,679.81
2014/3/21	2014/4/20	1802.92	1838.86	1672.89	2179.45	7,494.12
2014/4/21	2014/5/20	2537.58	2638.65	2456.24	2918.73	10,551.20
2014/5/21	2014/6/20	4649.64	4680.18	4165.93	4948.70	18,444.45
2014/6/21	2014/7/20	1564.28	1649.94	1477.00	1713.87	6,405.09
2014/7/21	2014/8/20	2184.08	2167.92	1916.10	2379.23	8,647.33
2014/8/21	2014/9/20	1385.52	1389.62	1280.92	1648.93	5,704.99
2014/9/21	2014/10/20	1765.78	1766.88	1679.30	2051.32	7,263.28
2014/10/21	2014/11/20	2894.68	3014.58	2670.64	3343.71	11,923.61
2014/11/21	2014/12/20	3165.74	3415.26	3043.84	3620.93	13,245.77
2014/12/21	2015/1/20	2476.55	2559.00	2338.34	2696.16	10,070.05
2015/1/21	2015/2/20	2144.54	2214.61	1984.51	2634.00	8,977.66
2015/2/21	2015/3/20	1235.15	1251.23	1123.56	1395.76	5,005.70
2015/3/21	2015/4/20	2470.20	2518.43	2303.03	3052.60	10,344.26
2015/4/21	2015/5/20	2320.43	2268.65	2091.70	2642.06	9,322.84
2015/5/21	2015/6/20	2664.02	2729.19	2381.57	2828.92	10,603.70
2015/6/21	2015/7/20	2192.08	2238.44	2000.28	2475.63	8,906.43
2015/7/21	2015/8/20	1430.19	1442.86	1345.83	1671.03	5,889.91
2015/8/21	2015/9/20	1827.88	1880.75	1755.79	2074.50	7,538.92
2015/9/21	2015/10/20	1918.06	1936.00	1794.77	2215.67	7,864.50
2015/10/21	2015/11/20	1794.66	1876.26	1674.99	1976.93	7,322.84
2015/11/21	2015/12/20	2493.65	2564.87	2340.41	3073.43	10,472.36
2015/12/21	2016/1/20	2547.62	2615.72	2426.62	3073.78	10,663.74
2016/1/21	2016/2/20	1383.65	1437.91	1297.19	1477.46	5,596.21
2016/2/21	2016/3/20	1475.69	1549.18	1350.21	1639.12	6,014.20
2016/3/21	2016/4/20	2277.29	2362.70	2151.91	2715.31	9,507.21
2016/4/21	2016/5/20	2671.76	2669.56	2381.21	2917.88	10,640.41
2016/5/21	2016/6/20	2776.80	2756.64	2609.76	3200.59	11,343.79

CDM-MR-FORM

2016/6/21	2016/7/20	1910.04	1943.46	1819.21	2194.90	7,867.61
2016/7/21	2016/8/20	2259.11	2255.67	2042.81	2557.67	9,115.26
2016/8/21	2016/9/20	1906.18	1983.29	1787.17	2162.78	7,839.42
2016/9/21	2016/10/20	1339.22	1308.31	1208.82	1443.03	5,299.38
2016/10/21	2016/11/20	2270.37	2225.35	2057.45	2544.98	9,098.15
2016/11/21	2016/12/20	3228.58	3288.89	3072.62	3705.68	13,295.77
2016/12/21	2017/1/20	2398.06	2486.39	2258.43	2721.95	9,864.83
2017/1/21	2017/2/20	1900.38	1928.76	1766.75	2127.75	7,723.64
2017/2/21	2017/3/14	973.08	987.67	907.83	1,225.38	4,093.96

Period		Electricity generation of the other project metered by the other separate meters(MWh)				E _{others} (MWh)
		#5	#6	#7	#8	Total
start	end	F	G	H	I	J=F+G+H+I
2013/1/21	2013/2/20	1984.20	2083.17	2200.24	2190.22	8,457.83
2013/2/21	2013/3/20	973.77	1025.34	1078.18	1219.45	4,296.74
2013/3/21	2013/4/20	1995.19	2185.40	2325.38	2392.63	8,898.60
2013/4/21	2013/5/20	2238.12	2294.49	2483.20	2662.03	9,677.84
2013/5/21	2013/6/20	2503.06	2685.84	2764.09	2945.37	10,898.36
2013/6/21	2013/7/20	2021.69	2122.63	2271.43	2485.91	8,901.66
2013/7/21	2013/8/20	1561.19	1698.62	1811.12	1825.92	6,896.85
2013/8/21	2013/9/20	2075.36	2155.78	2234.00	2337.26	8,802.40
2013/9/21	2013/10/20	2375.64	2548.73	2584.60	2864.96	10,373.93
2013/10/21	2013/11/20	1844.81	1917.90	2013.48	2073.41	7,849.60
2013/11/21	2013/12/20	2094.30	2273.66	2338.20	2602.47	9,308.63
2013/12/21	2014/1/20	2281.14	2469.39	2515.15	2769.09	10,034.77
2014/1/21	2014/2/20	2465.83	2450.83	2665.73	2859.13	10,441.52
2014/2/21	2014/3/20	1043.91	1135.10	1178.18	1170.82	4,528.01
2014/3/21	2014/4/20	1694.53	1800.02	1891.41	1898.03	7,283.99
2014/4/21	2014/5/20	1919.74	2123.26	2185.23	2386.58	8,614.81
2014/5/21	2014/6/20	4253.76	4343.39	4735.57	4842.05	18,174.77
2014/6/21	2014/7/20	1419.15	1485.68	1518.43	1639.89	6,063.15
2014/7/21	2014/8/20	1645.04	1752.65	1785.26	2004.01	7,186.96
2014/8/21	2014/9/20	1179.71	1318.48	1326.53	1485.73	5,310.45
2014/9/21	2014/10/20	1646.28	1804.50	1895.39	2039.38	7,385.55
2014/10/21	2014/11/20	2245.30	2468.08	2586.22	2573.61	9,873.21
2014/11/21	2014/12/20	2763.02	2822.87	3083.11	3338.20	12,007.20
2014/12/21	2015/1/20	2311.80	2397.55	2537.20	2983.89	10,230.44
2015/1/21	2015/2/20	1973.97	2047.20	2264.04	2377.14	8,662.35
2015/2/21	2015/3/20	1157.36	1191.70	1301.72	1335.88	4,986.66
2015/3/21	2015/4/20	2369.59	2428.20	2605.46	2717.40	10,120.65
2015/4/21	2015/5/20	1912.92	2049.08	2094.77	2293.07	8,349.84
2015/5/21	2015/6/20	2102.89	2226.64	2485.77	2644.29	9,459.59
2015/6/21	2015/7/20	1675.84	1820.50	1897.68	1867.22	7,261.24
2015/7/21	2015/8/20	1223.29	1237.02	1320.66	1488.41	5,269.38

CDM-MR-FORM

2015/8/21	2015/9/20	1713.84	1718.52	1813.19	1986.28	7,231.83
2015/9/21	2015/10/20	1512.37	1591.33	1690.73	1649.89	6,444.32
2015/10/21	2015/11/20	1438.97	1587.63	1684.82	1719.43	6,430.85
2015/11/21	2015/12/20	2211.43	2289.61	2434.39	2397.78	9,333.21
2015/12/21	2016/1/20	2393.94	2390.37	2624.87	2763.60	10,172.78
2016/1/21	2016/2/20	1357.04	1357.71	1496.14	1552.00	5,762.89
2016/2/21	2016/3/20	1213.16	1296.15	1328.37	1343.26	5,180.94
2016/3/21	2016/4/20	2081.04	2234.02	2389.54	2476.94	9,181.54
2016/4/21	2016/5/20	2281.16	2361.06	2511.99	2714.12	9,868.33
2016/5/21	2016/6/20	2568.20	2756.26	2795.86	3062.20	11,182.52
2016/6/21	2016/7/20	1628.43	1701.04	1787.87	1911.35	7,028.69
2016/7/21	2016/8/20	1738.49	1850.54	1870.89	2052.87	7,512.79
2016/8/21	2016/9/20	1730.15	1874.87	1972.92	1929.79	7,507.73
2016/9/21	2016/10/20	1192.83	1258.08	1369.38	1471.25	5,291.54
2016/10/21	2016/11/20	1953.09	2096.36	2117.42	2288.53	8,455.40
2016/11/21	2016/12/20	2549.47	2632.75	2891.75	2972.22	11,046.19
2016/12/21	2017/1/20	2055.49	2201.67	2268.85	2472.43	8,998.44
2017/1/21	2017/2/20	1410.84	1562.02	1633.88	1744.89	6,351.63
2017/2/21	2017/3/14	868.64	946.42	1,016.75	1,056.27	3,888.08

Period		EG _{export_tota} I (MWh)	EG _{import_tota} I (MWh)	EG _{total} (MWh)	E _{project} (MWh)	E _{others} (MWh)	EG _y (MWh)
start	end	K	L	H=K-L	E	J	M=K*E/(E+J)
2013/1/21	2013/2/20	17,304.72	57.69	17,247.03	9,197.42	8,457.83	8,984.76
2013/2/21	2013/3/20	8,877.37	42.50	8,834.87	4,787.98	4,296.74	4,656.30
2013/3/21	2013/4/20	17,480.50	53.72	17,426.78	8,896.89	8,898.60	8,712.55
2013/4/21	2013/5/20	20,422.07	56.15	20,365.92	11,184.00	9,677.84	10,918.14
2013/5/21	2013/6/20	22,172.81	22.24	22,150.57	11,810.77	10,898.36	11,520.27
2013/6/21	2013/7/20	17,794.62	46.66	17,747.96	9,213.99	8,901.66	9,026.98
2013/7/21	2013/8/20	14,194.88	56.15	14,138.73	7,547.30	6,896.85	7,387.71
2013/8/21	2013/9/20	18,111.87	46.88	18,064.99	9,705.20	8,802.40	9,473.10
2013/9/21	2013/10/20	20,002.94	42.51	19,960.43	10,140.45	10,373.93	9,866.63
2013/10/21	2013/11/20	16,658.19	85.49	16,572.70	9,105.37	7,849.60	8,900.08
2013/11/21	2013/12/20	20,181.25	90.13	20,091.12	11,208.12	9,308.63	10,975.60
2013/12/21	2014/1/20	21,045.00	88.01	20,956.99	11,336.60	10,034.77	11,116.79
2014/1/21	2014/2/20	22,663.81	57.13	22,606.68	12,571.97	10,441.52	12,349.73
2014/2/21	2014/3/20	9,009.56	141.99	8,867.57	4,679.81	4,528.01	4,506.88

2014/3/21	2014/4/20	14,465.44	90.19	14,375.25	7,494.12	7,283.99	7,289.83
2014/4/21	2014/5/20	18,872.19	65.41	18,806.78	10,551.20	8,614.81	10,353.44
2014/5/21	2014/6/20	35,784.87	77.59	35,707.28	18,444.45	18,174.77	17,985.12
2014/6/21	2014/7/20	12,200.63	66.37	12,134.26	6,405.09	6,063.15	6,233.52
2014/7/21	2014/8/20	15,580.87	56.04	15,524.83	8,647.33	7,186.96	8,478.33
2014/8/21	2014/9/20	10,821.32	80.45	10,740.87	5,704.99	5,310.45	5,562.79
2014/9/21	2014/10/20	14,330.87	81.25	14,249.62	7,263.28	7,385.55	7,065.34
2014/10/21	2014/11/20	21,330.31	29.50	21,300.81	11,923.61	9,873.21	11,652.28
2014/11/21	2014/12/20	24,710.00	52.69	24,657.31	13,245.77	12,007.20	12,933.33
2014/12/21	2015/1/20	19,850.82	118.61	19,732.21	10,070.05	10,230.44	9,788.15
2015/1/21	2015/2/20	17,268.56	140.25	17,128.31	8,977.66	8,662.35	8,717.24
2015/2/21	2015/3/20	9,795.50	149.48	9,646.02	5,005.70	4,986.66	4,832.20
2015/3/21	2015/4/20	19,939.19	56.43	19,882.76	10,344.26	10,120.65	10,050.00
2015/4/21	2015/5/20	17,294.85	64.22	17,230.63	9,322.84	8,349.84	9,089.65
2015/5/21	2015/6/20	19,586.96	21.70	19,565.26	10,603.70	9,459.59	10,340.48
2015/6/21	2015/7/20	15,805.93	41.98	15,763.95	8,906.43	7,261.24	8,684.03
2015/7/21	2015/8/20	10,945.81	79.81	10,866.00	5,889.91	5,269.38	5,735.11
2015/8/21	2015/9/20	14,497.14	52.69	14,444.45	7,538.92	7,231.83	7,372.38
2015/9/21	2015/10/20	14,039.73	59.83	13,979.90	7,864.50	6,444.32	7,683.72
2015/10/21	2015/11/20	13,519.14	73.61	13,445.53	7,322.84	6,430.85	7,158.77
2015/11/21	2015/12/20	19,474.11	94.72	19,379.39	10,472.36	9,333.21	10,247.01
2015/12/21	2016/1/20	20,305.62	66.31	20,239.31	10,663.74	10,172.78	10,358.10
2016/1/21	2016/2/20	11,134.42	216.36	10,918.06	5,596.21	5,762.89	5,378.93
2016/2/21	2016/3/20	11,012.33	98.10	10,914.23	6,014.20	5,180.94	5,863.29
2016/3/21	2016/4/20	18,307.47	57.10	18,250.37	9,507.21	9,181.54	9,284.20
2016/4/21	2016/5/20	20,169.00	25.26	20,143.74	10,640.41	9,868.33	10,451.04
2016/5/21	2016/6/20	22,060.81	44.45	22,016.36	11,343.79	11,182.52	11,086.99
2016/6/21	2016/7/20	14,616.72	44.99	14,571.73	7,867.61	7,028.69	7,696.19
2016/7/21	2016/8/20	16,311.27	62.45	16,248.82	9,115.26	7,512.79	8,907.37
2016/8/21	2016/9/20	14,979.96	64.54	14,915.42	7,839.42	7,507.73	7,618.89
2016/9/21	2016/10/20						

		10,386.57	103.44	10,283.13	5,299.38	5,291.54	5,145.37
2016/10/21	2016/11/20	17,233.87	68.97	17,164.90	9,098.15	8,455.40	8,896.71
2016/11/21	2016/12/20	23,828.16	67.45	23,760.71	13,295.77	11,046.19	12,978.29
2016/12/21	2017/1/20	18,436.81	81.05	18,355.76	9,864.83	8,998.44	9,599.42
2017/1/21	2017/2/20	13,872.63	108.15	13,764.48	7,723.64	6,351.63	7,553.10
2017/2/21	2017/3/14	7,833.21	103.52	7,729.69	4,093.96	3,888.08	3,964.53
Total		846,522.68	3,652.21	842,870.47	451,348.46	412,476.68	440,430.64

As shown above, the net electricity supplied to the grid from the 21/01/2013 to 14/03/2017 is 440,430.64MWh.

The baseline emission is:

$$BE_y = EG_y \cdot EF_{\text{grid,CM,y}} = 440,430.64 \text{MWh} \times 1.0548 \text{tCO}_2\text{e/MWh} = 464,566 \text{ tCO}_2\text{e}$$

E.2. Calculation of project emissions or actual net removals

>>

According to the registered PDD of the project, no project emission is to be counted by the Project.

Hence, $PE_y = 0$

E.3. Calculation of leakage emissions

>>

According to the registered PDD of the project, No leakage was considered.

$Ly = 0$

E.4. Calculation of emission reductions or net anthropogenic removals

	Baseline GHG emissions or baseline net GHG removals (t CO ₂ e)	Project GHG emissions or actual net GHG removals (t CO ₂ e)	Leakage GHG emissions (t CO ₂ e)	GHG emission reductions or net anthropogenic GHG removals (t CO ₂ e)		
				Before 01/01/2013	From 01/01/2013	Total amount
Total	464,566	0	-	0	464,566	464,566

E.5. Comparison of emission reductions or net anthropogenic removals achieved with estimates in the registered PDD

Amount achieved during this monitoring period (t CO ₂ e)	Amount estimated ex ante (t CO ₂ e)
464,566	514,660

E.6. Remarks on increase in achieved emission reductions

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The actual value of emission reductions in this period is lower than that estimated in the PDD.