

**MONITORING REPORT****Version: 02****Date: 15/11/2010****Jilin Da'an Dagangzi Wind Power Project Phase II****CDM registration reference number: 2586****The monitoring period: 01/01/2009 – 08/03/2010****SECTION A. General description of the project activity****A.1. Brief description of the project activity: >>**

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The Jilin Da'an Dagangzi Wind Power Project Phase II (hereafter referred to as the "Project"), developed by Jilin CGN Wind Power Co., Ltd, (hereafter referred to as the "Project Developer") is a grid connected renewable energy project in Da'an city, Jilin Province, in the People's Republic of China (hereafter referred to as the "Host Country"). It involves the installation of 33 turbines, each of which has a rated output of 1500 kW, providing a total installed capacity of 49.5 MW, with a predicted power delivered to the grid of 103,130MWh per annum.

Purpose of the Project:

The purpose of the project is to generate power through wind energy thereby reducing greenhouse gas (GHG) emissions in electricity generation in the Northeast China Power Grid (hereafter referred to as the "Grid"). The Project Developer has obtained permission to sell generated electricity to the Jilin Power Grid which is an integral part of the Grid.

Relevant dates for the project activity:**Timeline of the project activity**

Construction start date	10/03/2008
Commissioning start date	16/12/2008
Date of CDM registration	09/03/2010
Monitoring period	01/01/2009-08/03/2010

Emission reductions during this monitoring period:

Based on the calculation in section E of this report, emission reductions of the Project during this monitoring period (01/01/2009-08/03/2010) are 128,377tCO₂e.

A.2. Project Participants

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Name of Party involved (*) ((host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
P.R.China (host)	Jilin CGN Wind Power Co., Ltd	No

(*) In accordance with the CDM modalities and procedures, at the time of making the CDM-PDD public at the stage of validation, a Party involved may or may not have provided its approval. At the time of requesting registration, the approval by the Party(ies) involved is required.

**A.3. Location of the project activity:**

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The Project is located near the village of Shuanggang, Dagangzi County, Da'an City, Jilin Province, People's Republic of China (P. R. China).

The exact location of the project is defined using geographic coordinates obtained with a Global Positioning System (GPS) receiver: E 123° 35' 26" ~ 123° 38' 58" Longitude, N 44° 18' 23" ~ 45° 18' 46" Latitude. These geographic coordinates are for the centre of the wind farm.

A.4. Technical description of the project

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The project involves the installation of 33 wind turbines each of which with a rated capacity of 1,500 kW, providing a total capacity of 49.5MW. The power generated is delivered to the Northeast China Power Grid by 220kV step-up substation.

The generator is produced by Dongfang Steam Turbine Works Company. All other items of equipment used in the Project are produced domestically and the project developer is experienced in handling and operating this kind of equipment. The key technical parameters of wind turbines are listed in Table 1.

Table 1. Key technical parameters of the wind turbines of the Project

Generator	
Parameter	Value
Type	FD77B
No.of vane	3
Rated Power (kW)	1,500
Diameter of wheel (m)	77
Cut-in speed (m/s)	4
Cut-out speed (m/s)	25
Rated speed (m/s)	16
Height of Wheel (m)	61.5
Manufacturer	Dongfang Steam Turbine Works

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

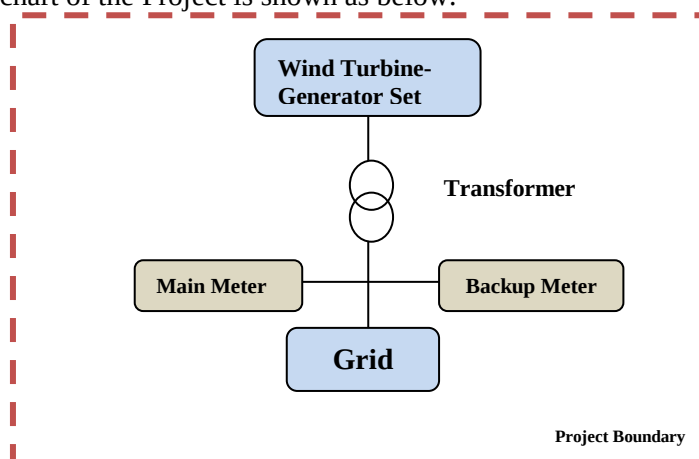


Figure 1 Technology flow chart of the Project

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

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1. The methodology applied for the Project is the approved consolidated baseline and monitoring methodology ACM0002: “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” Version 07, in effect as of 14 December 2007; and
2. The approved “Tool for demonstration and assessment of additionality”, Version 05.2, in effect as of EB 39; and
3. The approved “Tool to calculate the emission factor for an electricity system”, Version 01.1, in effect as of EB 35, are applied to the Project activity.

More information about the methodology can be obtained at:

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

A.6. Registration date of the project activity:

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09/03/2010

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

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According to the VCS 2007.1, the starting date of the crediting period is 01/01/2009. The VCS Project crediting period is from 01/01/2009 to 08/03/2010.

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

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Entity: CGN Wind Power Co., Ltd

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

Tel: +86-10-63705611

Fax: +86-10-63705685

**SECTION B. Implementation of the project activity****B.1. Implementation status of the project activity**

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The Project was started construction on 10 March 2008 and put into operation on 16 Dec. 2008. Technology and equipments adopted in the Project are consistent with the registered PDD. During this monitoring period (01/01/2009-08/03/2010), all the equipments and metering systems worked normally. No events or situations, which may impact the applicability of the methodology, occurred during this monitoring period.

B.2. Revision of the monitoring plan

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Not applicable.

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

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Not applicable.

B.4. Notification or request of approval of changes

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Not applicable.

SECTION C. Description of the monitoring system

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In the registered PDD, emission factor of the Project is determined ex-ante. Therefore the net electricity delivered to the grid by the Project is defined as the key data to be monitored.

1. Organizational structure and responsibility

The Project owner, Jilin CGN Wind Power Co., Ltd., takes the responsibility of the monitoring plan implementation.

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

The concerned staffs had been trained on monitoring and measurement to ensure the implementation of this monitoring plan according to the requirements.

Organizing structure of the team is shown as figure 2.

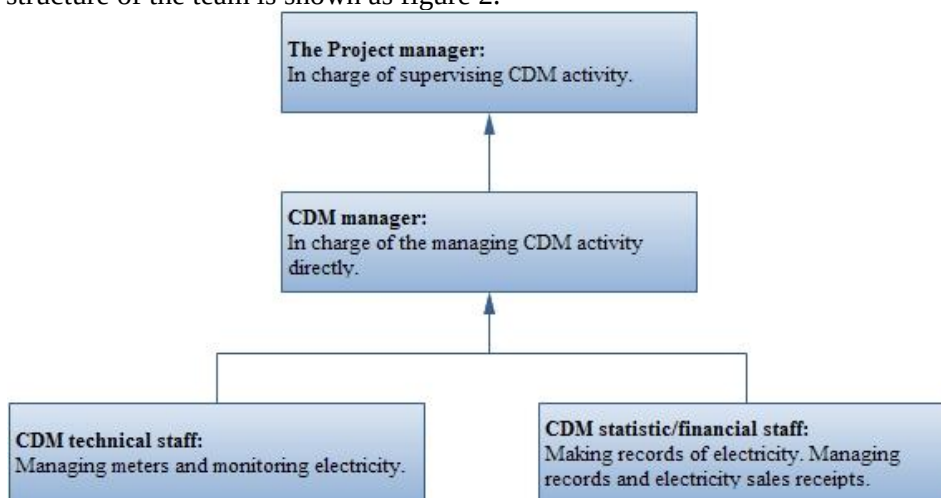


Figure 2 Structure of the team

2. Monitoring system and data collection

The net electricity delivered to the grid by the Project is hourly measured by national standard electricity metering instruments and daily recorded by the project owner. The metering instruments have been calibrated annually in accordance with the “*Technical administrative code of electric energy metering (DL/T448—2000)*”. The detailed information on meter equipments is listed in the table 2.

Table 2. The detailed information on meter equipments

Meter	Type	Accuracy Class	SN	Calibration Date	Validity Period
M _{main} ,	ZMD402CT	0.2S	94348627	06/11/2008	06/11/2008-05/11/2009
				05/04/2009	05/04/2009-04/04/2010
				09/03/2010	09/03/2010-08/03/2011



M _{backup}	ZMD402CT	0.2S	94348626	06/11/2008	06/11/2008-05/11/2009
				05/04/2009	05/04/2009-04/04/2010
				09/03/2010	09/03/2010-08/03/2011
M _{10kv}	DTSD318	1.0	60014972	12/08/2008	12/08/2008-11/08/2009
				10/08/2009	10/08/2009-09/08/2010
m ₁	DTSD341	0.5S	20070865050028	06/11/2008	06/11/2008-05/11/2009
				13/03/2009	13/03/2009-12/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₂	DTSD341	0.5S	20070865050026	06/11/2008	06/11/2008-05/11/2009
				13/03/2009	13/03/2009-12/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₃	DTSD341	0.5S	20070865050027	06/11/2008	06/11/2008-05/11/2009
				13/03/2009	13/03/2009-12/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₄	DTSD341	0.2S	20070712010071	06/11/2008	06/11/2008-05/11/2009
				13/03/2009	13/03/2009-12/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₅	DTSD341	0.5S	20070865050025	06/11/2008	06/11/2008-05/11/2009
				13/03/2009	13/03/2009-12/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₆	DTSD341	0.5S	20070865050021	06/11/2008	06/11/2008-05/11/2009
				13/03/2009	13/03/2009-12/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₇	DTSD341	0.5S	20080846040146	10/11/2008	10/11/2008-09/11/2009
				01/04/2009	01/04/2009-31/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₈	DTSD341	0.5S	20080846040145	10/11/2008	10/11/2008-09/11/2009
				01/04/2009	01/04/2009-31/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₉	DTSD341	0.5S	20080846040142	10/11/2008	10/11/2008-09/11/2009
				01/04/2009	01/04/2009-31/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₁₀	DTSD341	0.5S	20080846040141	01/04/2009	01/04/2009-31/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₁₁	DTSD341	0.5S	20080846040151	01/04/2009	01/04/2009-31/03/2010
				09/03/2010	09/03/2010-08/03/2011
m ₁₂	DTSD341	0.5S	20080846040143	01/04/2009	01/04/2009-31/03/2010
				09/03/2010	09/03/2010-08/03/2011

The electric energy metering equipment has been properly configured and the metering equipment has been checked by both the project owner and the grid company before the proposed project is in operation. The net electricity delivered by the proposed project to the grid is monitored through the main meter installed in the power plant 220kV high voltage side of the 35kV-to-220kV, and the backup meter which is an assistant meter, is in the power plant 220kV high voltage side of the 35kV-to-220kV also. When the main meter has any troubles, the project owner should employ the data monitored by the backup meter.

In addition, a spare 10kV line is used for supplying electricity in emergent case that the project fails to generate power. The electricity from the spare 10kv line connecting with the grid monitored by the meter M_{10kv}.

Currently four other wind power project shares the same substation 220KV transmission line, the spare 10kV line and the main meter. The appropriate separate meters have already been installed in the project site so that the electricity generation can be monitored respectively to calculate the share of this wind power project of the net electricity delivered to the grid at 220kV. The Project is the Phase II of five phases, each phase being developed independently as a CDM project. The net electricity delivered to the Northeast China Power Grid by the Project has been monitored through the metering equipments. There are totally 17 meters involved: M_{main} , M_{backup} , M_{10kv} , m_1 , m_2 , m_3 , m_4 , m_5 , m_6 , m_7 , m_8 , m_9 , m_{10} , m_{11} , m_{12} , m_{13} and m_{14} . Meters m_{13} and m_{14} aren't installed now. Meters m_{13} , m_{14} will monitor the Phase V, when the Phase V will be completed. The metering diagram and the meters list are presented as follows, giving an overview of these meters.

The net electricity delivered to the grid by the Project has been recorded by the project owner and the data should be cross-checked against relevant electricity sale receipts and/or records from the grid.

The project developer will archive the data electronically until two years after the end of the crediting period, whichever occurs later.

Indicative electric connection diagram of the Project is described as follow:

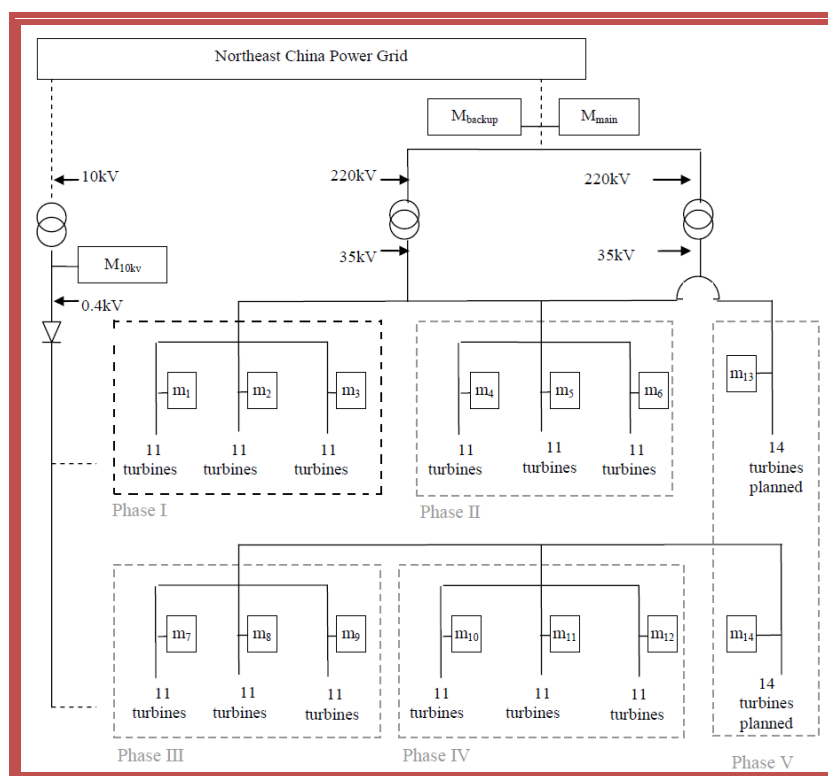


Figure 3 Indicative electric connection diagram of the Project

The net electricity delivered to the grid by the Project (EG_y) has been calculated as follows:

$$EG_y = M_{main,export,y} \times \frac{\sum_{i=4}^6 m_{i,export,y}}{\sum_{i=1}^{14} m_{i,export,y}} - M_{main,import,y} - M_{10kv,import,y}$$

Where:

EG_y is the calculated net electricity delivered to the grid by the proposed project during the monitoring period y ;

$m_{i,export,y}$ is the electricity delivered to the grid and measured by the meters m_i during the monitoring period y ;

$M_{main,export,y}$ is the electricity delivered to the grid and measured by the meter M_{main} during the monitoring period y ;

$M_{main,import,y}$ is the electricity imported from the grid and measured by the meter M_{main} during the monitoring period y ;

$M_{10kv,import,y}$ is the electricity imported from the grid and measured by the meter M_{10kv} during the monitoring period y .

i is the number of the meters which installed at power plant 35kV low voltage side of the 35kV-to-220kV. $i=1\sim14$.

3. Quality assurance and quality control

Calibration of Meters has been implemented by the qualified third parties. No errors occurred during this monitoring period. And all the records could be documented and maintained by the project owner for DOE's verification.

Monthly net generation data should be approved and signed off by the Project Manager before it is accepted and stored. This audit should check compliance with operational procedures in this monitoring plan. This internal audit will also identify potential improvements on procedures to improve monitoring and reporting in future years. If such improvements are proposed, these improvements should be reported to the DOE and only operationalised after approval from the DOE.

Problem occurred in monitoring and measurement process will be recorded and reported to company administrator or supervisor. Consequently, the corrective resolution will be adopted to deal with that problem and to avoid it occur again in future.

4. Emergency procedures

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

- (1) When one of the two meters has a breakdown, the readings of the other meter will be adopted;
- (2) If both the main meter and back-up meter have breakdowns, Jilin CGN Wind Power Co., Ltd and the Northeast China Power Grid shall jointly prepare an reasonable and conservative estimate of the correct reading and deducting the line losses, then provide sufficient evidence that this estimation is reasonable and conservative when DOE undertakes verification.

**SECTION D. Data and parameters****D.1. Data and parameters determined at registration and not monitored during the monitoring period, including default values and factors**

Data / Parameter:	$EF_{grid,CM,y}$
Data unit:	tCO ₂ e/MWh
Description:	<i>The Baseline emission factor of Northeast China Power Grid.</i>
Source of data used:	<i>Registered PDD</i>
Value(s) :	<i>1.1461</i>
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	<i>The data are used for Baseline emission calculations</i>
Additional comment:	<i>The data is calculated ex-ante according to the applied methodology.</i>

D.2. Data and parameters monitored

Data / Parameter:	EG_y
Data unit:	MWh
Description:	<i>The net electricity delivered to the grid by the Project.</i>
Measured /Calculated /Default:	<i>The net electricity delivered to the grid by the proposed project is calculated with the readings of the national standard electricity metering instruments listed in Section C.2. The electricity of the meter instruments are hourly measured and daily recorded. The metering instruments have been calibrated annually in accordance with the national standards.</i>
Source of data:	<i>Measured by the electricity meters: M_{main}, M_{backup}, M_{10kv} m_1, m_2, m_3, m_4, m_5, m_6, m_7, m_8, m_9, m_{10}, m_{11}, m_{12} and calculated by the formula listed in the Section C.2.</i>
Value(s) of monitored parameter:	<i>Detailed monthly data and calculation is presented in section E.1. of the monitoring report. EG_y during this monitoring period is.112,012.619MWh</i>
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	<i>The data are used for Baseline emission calculations.</i>
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	<i>The detailed information on meter equipment showed in C.2.</i>
Measuring/ Reading/ Recording frequency:	<i>The net electricity delivered to the grid by the proposed project is calculated with the readings of the national standard electricity metering instruments listed in Section C.2. The electricity of the meter instruments are hourly measured by national standard electricity metering instruments and daily recorded.</i>



Calculation method (if applicable):	<i>The net electricity delivered from the Project to the grid is calculated with the formula showed in C.2.</i>
QA/QC procedures applied:	<i>Monthly net generation data should be approved and signed off by the Project Manager before it is accepted and stored. The accuracy of the measurement is ensured through calibration by a qualified party.</i>

**SECTION E. Emission reductions calculation****E.1. Baseline emissions calculation**

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Baseline emissions (BE_y in tCO₂e) are the product of the baseline emissions factor ($EF_{grid,CM,y}$ in tCO₂e/MWh) multiplied by the net electricity delivered by the Project to the grid (EG_y in MWh):

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

Where

EG_y — Net electricity delivered to the grid during the monitoring period (MWh).

$EF_{grid,CM,y}$ — Emission factor of the grid (tCO₂e /MWh) (1.1461tCO₂e /MWh, as calculated ex-ante in the registered PDD and will not be updated during the crediting period).

According to the exported electricity measured by the M_{main} , m_1 , m_2 , m_3 , m_4 , m_5 , m_6 , m_7 , m_8 , m_9 , m_{10} , m_{11} , m_{12} and calculated by the formula listed in the Section C.2., the exported electricity by the Project to the grid is listed as below:

Period	The exported electricity to the grid (MWh)
01/01/2009-24/01/2009	4,419.913
25/01/2009-24/02/2009	6,084.389
25/02/2009-24/03/2009	9,635.812
25/03/2009-24/04/2009	9,563.347
25/04/2009-24/05/2009	10,906.372
25/05/2009-24/06/2009	6,516.784
25/06/2009-24/07/2009	5,918.468
25/07/2009-24/08/2009	5,660.865
25/08/2009-24/09/2009	11,072.836
25/09/2009-24/10/2009	7,823.432
25/10/2009-24/11/2009	12,353.452
25/11/2009-24/12/2009	7,432.339
Subtotal	97,388.009
25/12/2009-20/01/2010	3,277.721
21/01/2010-24/02/2010	10,799.633
25/02/2010-08/03/2010	2,828.216
Subtotal	16,905.570
Total	114,293.579

As shown above, the electricity exported to the grid from the 01/01/2009 to 08/03/2010 is **114,293.579MWh**.

During the monitoring period (01/01/2009-24/12/2010), the total electricity imported from the grid is **1,351.680MWh**.

During the monitoring period (25/12/2010-08/03/2010), the total electricity imported from the grid is **929.280MWh**.

Period	Net electricity supplied to the grid by the project used for CERs calculation (MWh)	Baseline Emissions (tCO ₂ e)
01/01/2009-24/12/2009	960,36.329	110,067
25/12/2009-08/03/2010	15,976.290	18,310
Total	112,012.619	128,377

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

$$BE_y = EG_y \times EF_{grid,CM,y} = 112,012.619 \text{MWh} \times 1.1461 \text{tCO}_2\text{e/MWh} = \mathbf{128,377 \text{tCO}_2\text{e}}$$

E.2. Project emissions calculation

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The Project does not have backup power generation. According to the applied methodology, the project emissions from the Project are not considered. The Project emissions is zero, as $PE_y = 0 \text{ tCO}_2\text{e}$.

E.3. Leakage calculation

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According to the applied methodology, as a new renewable energy project, no leakage needs to be considered in the Project, as $L_y = 0 \text{ tCO}_2\text{e}$.

E.4. Emission reductions calculation / table

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The emission reductions (ER_y) by the Project activity during a given year y is the difference between baseline emissions (BE_y), project activity emissions (PE_y) and leakage (L_y), as follows:

$$ER_y = BE_y - PE_y - L_y$$

As the project emissions and leakages from the Project are zero, emission reductions are numerically equal to baseline emissions.

Emission reductions during the monitoring period (01/01/2009-08/03/2010) are thus calculated as 128,377tCO₂e.

**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)	139,893 *	128,377

*Note: The data is average one calculated based on the registered PDD. The annual emission reductions estimated in the registered PDD are 118,197 tCO₂e. The monitoring period covers 432 days, so the average one is calculated as below:

$118,197/365 \times 432 = 139,893 \text{ tCO}_2\text{e}$

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

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It can be concluded from Section E.5 that there is no increase in the actual emission reductions achieved during the monitoring period compared to the ex-ante calculation of the registered PDD.



Annex 1
FURTHER DETAILS OF THE CALCULATION PROGRESS OF THE EMISSION REDUCTION

Table 1.1. The exported electricity to the grid by the meter readings (m1, m2, m3...m12 and Mmain)

Period	The exported electricity to the grid by the meter readings (m ₁ , m ₂ , m ₃ ...m ₁₂ and M _{main}) (kWh)												
	m ₁	m ₂	m ₃	m ₄	m ₅	m ₆	m ₇	m ₈	m ₉	m ₁₀	m ₁₁	m ₁₂	M _{main}
01/01/2009-24/01/2009	1593900	1575630	1435770	1391901	1346940	1691760	409920	197610	1050	0			9621216
25/01/2009-24/02/2009	2720340	2846340	2303070	2483922	1310400	2302860	1272390	548100	41790	0			15796000
25/02/2009-24/03/2009	3117492	3089730	3218670	3210186	3289440	3155460	2773050	3074400	1882020	0			26756928
25/03/2009-24/04/2009	2689848	2596020	2763180	3328773	2898000	3384780	3250170	3035130	2819250	0	0	0	26630912
25/04/2009-24/05/2009	2357040	2553810	2980320	3371844	3601710	3959970	4114530	3330180	3248700	0	0	0	29444800
25/05/2009-24/06/2009	2050650	1749720	2244060	2321613	2186100	2023350	2648100	2292780	2488290	626850	95340	462000	21142528
25/06/2009-24/07/2009	1826580	1714440	1945440	1598037	2237760	2094750	1923180	1904910	1931160	1867320	1594110	1824480	22416416
25/07/2009-24/08/2009	1592220	1501920	1808730	1869315	1920660	1902600	1708350	1624770	1956570	1981560	2015160	2068290	21827872
25/08/2009-24/09/2009	2954280	3154830	3245340	3596313	3799320	3687600	3387090	3349500	3823260	3758370	3815700	3958920	42490624
25/09/2009-24/10/2009	1892520	2140530	2214660	2613786	2584680	2645370	2362710	2328480	2681070	2703750	2740710	2822610	29653536
25/10/2009-24/11/2009	3125010	3549210	3535140	4034121	4201260	4144140	4071270	4053630	4305420	4365690	4265940	3983910	47534432
25/11/2009-24/12/2009	1536780	1649550	1720320	2397423	2492700	2557800	2219490	2211930	2451960	2587410	2572920	2366070	26708352
25/12/2009-20/01/2010	761670	710220	746550	1057623	1049370	1177680	936180	917490	1028790	855120	1068270	1026900	11311872
21/01/2010-24/02/2010	2946510	2564310	2844660	3348639	3709440	3764250	3227490	3389610	3311700	3699360	3656940	3441480	39820704
25/02/2010-08/03/2010	888510	819840	888510	918561	956130	959490	887670	856170	1128540	937440	1074780	1031730	11323488

Therefore, the exported electricity to the grid by the Project ($EG_{\text{export},y}$) is calculated as follows:

$$EG_{\text{export},y} = M_{\text{main,export},y} \times \frac{\sum_{i=4}^6 m_{i,\text{export},y}}{\sum_{i=1}^{14} m_{i,\text{export},y}}$$

The calculation value of the electricity exported to the grid by the project is listed in Table 1.2.

Table 1.2. The electricity exported by the project to the grid

Period	Electricity supplied to the grid by calculation meter reading	Electricity supplied to the grid by receipts	Electricity supplied to the grid used for CERs calculation
	MWh	MWh	MWh
	A	B	C=MIN(A:B)
01/01/2009-24/01/2009	4,419.913	4,419.913	4,419.913
25/01/2009-24/02/2009	6,084.389	6,084.389	6,084.389
25/02/2009-24/03/2009	9,635.812	9,635.812	9,635.812
25/03/2009-24/04/2009	9,563.347	9,563.347	9,563.347
25/04/2009-24/05/2009	10,906.372	10,906.372	10,906.372
25/05/2009-24/06/2009	6,516.784	6,516.784	6,516.784
25/06/2009-24/07/2009	5,918.468	5,918.468	5,918.468
25/07/2009-24/08/2009	5,660.865	5,660.865	5,660.865
25/08/2009-24/09/2009	11,072.836	11,072.836	11,072.836
25/09/2009-24/10/2009	7,823.432	7,823.432	7,823.432
25/10/2009-24/11/2009	12,353.452	12,353.452	12,353.452
25/11/2009-24/12/2009	7,432.339	7,432.339	7,432.339
Subtotal	97,388.009	97,388.009	97,388.009
25/12/2009-20/01/2010	3,277.721	3,277.721	3,277.721
21/01/2010-24/02/2010	10,799.633	10,799.633	10,799.633
25/02/2010-08/03/2010	2,828.216	2,828.216	2,828.216
Subtotal	16,905.570	16,905.570	16,905.570
Total			114,293.579



The total imported electricity to the grid by the Project ($EG_{import,y}$) is calculated as follows:

$$EG_{import,y} = M_{main,import,y} + M_{10kv,import,y}$$

The electricity imported from the grid by the main meter ($M_{main,import,y}$) is listed in Table 1.3.

Table 1.3. The electricity imported by the project from the main meter

Period	Electricity imported from grid by meter reading	Period / Month*	Electricity imported from grid by receipts	Electricity imported from grid used for CERs calculation
	MWh		MWh	MWh
	D		E	F=MAX(D,E)
01/01/2009-24/01/2009	93.28	2009 Jan	68.64	1,351.680
25/01/2009-24/02/2009	48.224	2009 Feb	95.04	
25/02/2009-24/03/2009	66.176	2009 Mar	47.52	
25/03/2009-24/04/2009	50.688	2009 Apr	47.52	
25/04/2009-24/05/2009	22.176	2009 May	42.24	
25/05/2009-24/06/2009	48.928	2009 June	42.24	
25/06/2009-24/07/2009	89.408	2009 Jul	63.36	
25/07/2009-24/08/2009	42.24	2009 Aug	58.08	
25/08/2009-24/09/2009	49.28	2009 Sep	52.8	
25/09/2009-24/10/2009	52.8	2009 Oct	58.08	



25/10/2009-24/11/2009	91.52	2009 Nov	58.08	
25/11/2009-24/12/2009	280.192	2009 Dec	137.28	
		2010 Jan	580.8	
Subtotal	934.912	Subtotal	1351.68	
25/12/2009-20/01/2010	290.4	2009 Dec	137.28	929.280
		2010 Jan	580.8	
21/01/2010-24/02/2010	152.416	2010 Feb	121.44	
25/02/2010-08/03/2010	27.808	2010 March	89.76	
Subtotal	470.624	Subtotal	929.28	
Total	1,405.536		2,280.960	2,280.960

**The cut-point is varying from 18th to 22th of every month. It is hard to get the detail cut-point of each Receipts of electricity imported from grid, so the total amount of Receipts of electricity imported from grid and that of Electricity imported from grid by meter reading are selected for cross-check.*

The electricity imported from the grid by the 10kV spare line by the project ($M_{10kv,importy}$) is listed in Table1.4.



Table 1.4. The electricity imported by the project from the grid by the 10kV spare line

Period	Electricity imported from grid by 10kV spare line
	MWh
	G
01/01/2009-24/01/2009	0
25/01/2009-24/02/2009	0
25/02/2009-24/03/2009	0
25/03/2009-24/04/2009	0
25/04/2009-24/05/2009	0
25/05/2009-24/06/2009	0
25/06/2009-24/07/2009	0
25/07/2009-24/08/2009	0
25/08/2009-24/09/2009	0
25/09/2009-24/10/2009	0
25/10/2009-24/11/2009	0
25/11/2009-24/12/2009	0
Subtotal	0
25/12/2009-20/01/2010	0
21/01/2010-24/02/2010	0
25/02/2010-08/03/2010	0
Subtotal	0
Total	0

$$EG_{import,y} = M_{main,import,y} + M_{10kv,import,y} = 2,280.960 \text{ MWh} + 0 \text{ MWh} = 2,280.960 \text{ MWh}$$

The net electricity delivered to the grid (EG_y) by the Project is:

$$EG_y = M_{main,export,y} \times \frac{\sum_{i=4}^6 m_{i,export,y}}{\sum_{i=1}^{14} m_{i,export,y}} - M_{main,import,y} - M_{10kv,import,y} = EG_{export,y} - EG_{import,y}$$

Table 1.5. The net electricity supplied by the project to the grid and the Baseline Emissions

Period	Net electricity supplied to the grid by the project used for CERs calculation	EF	Baseline Emissions
	MWh	tCO ₂ e/MWh	tCO ₂ e
	G=C-F	H	I=G*H
01/01/2009-24/12/2009	96,036.329	1.1461	110,067
25/12/2009-08/03/2010	15,976.290	1.1461	18,310
Total	112,012.619	1.1461	128,377

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

$$BE_y = EG_y \times EF_{grid,CM,y} = 112,012.619 \text{ MWh} \times 1.1461 \text{ tCO}_2\text{e/MWh} = 128,377 \text{ tCO}_2\text{e}$$

$$PE_y = 0 \text{ tCO}_2\text{e.}$$

$$L_y = 0 \text{ tCO}_2\text{e.}$$

$$ER_y = BE_y - PE_y - L_y = 128,377 \text{ tCO}_2\text{e}$$